TURNKEY SYSTEM PRICING: TRENDS AND OPPORTUNITIES

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ABSTRACT

Turnkey systems provide in-house solutions to data processing problems for large, medium, and small businesses. Effective pricing of turnkey systems in today's volatile environment is an especially challenging management task.

This report examines setting and changing minicomputer- and microcomputer-based turnkey system prices. Key areas discussed include trends in turnkey system price levels, user attitudes versus vendor practices, the pricing process and revisions to prices, and pricing strategy considerations. Recommendations for turnkey vendors are included.

This report contains 128 pages, including 24 exhibits.

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TURNKEY SYSTEM PRICING:
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I INTRODUCTION

I INTRODUCTION

A. OBJECTIVE AND SCOPE

- Turnkey systems represent a solution to customers' data processing problems. During the past five years, shipments of minicomputer- and microcomputer-based turnkey systems have increased at an annual rate exceeding 20%.

- Effective pricing of turnkey systems in today's volatile environment is perceived by most vendors as an especially crucial management task. A number of factors are making pricing decisions especially challenging. These factors include:

  - Pressure on profit margins.

  - Emergence of microcomputer-based turnkey suppliers.

  - The entry of processing service vendors into the turnkey systems business.

  - The continual requirement to invest in product and customer service improvements to meet changing user expectations.

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- The primary objective of this report is to help turnkey system vendors develop more effective pricing strategies by describing and analyzing changes occurring in turnkey systems pricing levels and methods.

- This report addresses pricing issues related to minicomputer-/microcomputer-based turnkey systems sold to many end-user markets.

- The report focuses on turnkey systems provided by independent (i.e., noncaptive) vendors costing between $2,000 and $500,000 and sold through direct sales distribution channels.

- This report is written primarily for:

  - Marketing executives and planners who want to develop successful pricing strategies.

  - P&L managers interested in ascertaining that the pricing activity is properly positioned in management's priorities.

  - Managers, analysts, consultants, and others wishing to compare vendor pricing practices with user priorities.

  - Investment analysts wanting to calibrate pricing practices in the turnkey systems marketplace.

  - Information systems managers who purchase turnkey systems and who want to better understand what vendors are doing and how to improve the turnkey pricing process.

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B. KEY ISSUES

- This report deals primarily with current practices as well as future trends relating to pricing structures, levels, and methods.

- Key issues addressed in this report include:

  - What differences exist between user expectations and vendor pricing practices?

  - To what extent will the price levels change in the next three to five years?

  - What guidelines should vendors use to improve their pricing decisions?

  - What types of discounting are occurring? How will it change?

  - What role should pricing play in the marketing plan?

C. METHODOLOGY

- Primary research which contributed to the analysis and conclusions in this report came from two main sources:

  - Telephone and personal interviews in November and December 1985 with marketing managers at turnkey vendors, each selling their system into vertical markets.

  - Telephone interviews in November and December 1985 with senior executives at user sites with at least one turnkey system installed.

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- Vendors were asked to describe confidential information concerning their pricing approaches and directions. As a result, vendors participating in interviews for this report are not identified by name.

- Secondary research for this report included articles about:

  - The growth of turnkey systems in vertical markets.

  - Purchase decisions by buyers of turnkey systems.

D. REPORT ORGANIZATION

- The report is organized as follows:

  - Chapter II is an Executive Summary. This recap of the key points of the entire report is provided in a presentation-with-script format to facilitate the client's internal briefing session concerning the major findings of the report.

  - Chapter III addresses trends in price levels for turnkey systems for the period 1985-1990. Differences by vertical market are addressed.

  - Chapter IV covers pricing methods and contrasts user attitudes with vendor practices. Included are discounting approaches, customer support, the role of add-on hardware and software purchases in turnkey pricing, and actions by software vendors which affect turnkey systems pricing.

  - Chapter V discusses ways that vendors can improve the process by which they develop prices. This chapter covers the frequency of price revisions and involvement in and satisfaction with the pricing process.

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- Chapter VI addresses pricing strategy considerations. Included are discussions on pricing's role in the purchase decision, theoretical approaches to setting prices, external influences on setting prices, changing prices, and pricing considerations and innovations.

- Chapter VII provides conclusions and recommendations to vendors wishing to reassess their pricing practices. Pricing opportunities are identified and suggestions are offered concerning discounting, the role of pricing strategy, timing of price changes, and the establishment of pricing authority.

- Appendix A contains definitions related to this report.

- Appendix B provides a copy of the vendor questionnaire used for research.

- Appendix C contains a copy of the user questionnaire.

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II EXECUTIVE SUMMARY

II EXECUTIVE SUMMARY

- This Executive Summary is designed in a presentation format in order to:
  - Help the busy reader quickly review key research findings.
  - Provide a ready-to-go executive presentation, complete with a script to facilitate group communication.
- Key points of the report are summarized in Exhibits II-1 through II-6. On the left-hand page facing each exhibit is a script explaining the contents of the exhibit.

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A. PRICING STRATEGIES UNDER PRESSURE

- Pricing as a central element in a well-conceived turnkey system marketing strategy has not yet reached its full potential. Symptoms of the problem include:

  - Widespread discounting that reflects management reactions to tactical market pressures, especially the encroachment of microcomputer-based systems on the traditional turf of minicomputer-based systems.

  - Lack of pricing innovations. In spite of that fact that in other U.S. high technology business pricing innovations have enabled creative vendors to make large improvements in their market positions, turnkey system vendors, for the most part, have been tradition bound. Standard contract terms and conditions have not changed in five years.

  - A too-casual approach by vendor management to the central role of pricing and the process by which it is formulated. Too frequently, pricing is seen as a once-a-year phenomenon, usually set to coincide with the company's budgeting cycle rather than market developments.

- The business implications of these pricing deficiencies are significant. Turnkey pricing which is too high takes its toll in terms of lost business. Underpricing brings in unprofitable business. The net result of either approach is reduced profit margins. Misguided solutions to pricing pressures often accentuate the problem; for example, the response to discounting or competitive price increases is often to follow suit blindly.

- In view of the above, INPUT believes it is vital for turnkey vendors to reassess current pricing strategies, especially discounting, in order to attain desired marketing and financial goals.

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EXHIBIT II-1

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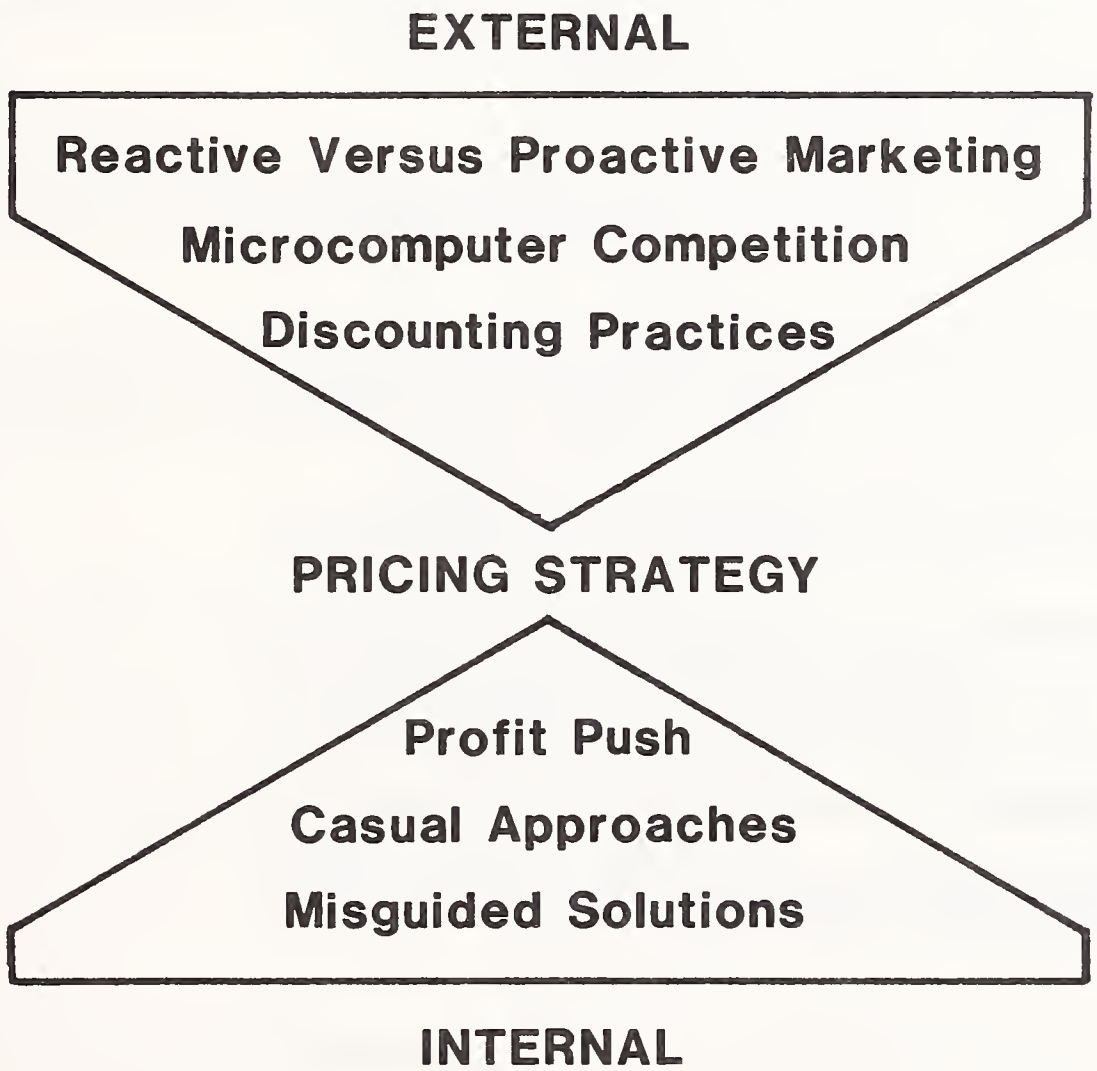
PRICING STRATEGIES UNDER PRESSURE



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B. COMPLETENESS OF SYSTEM AT TOP OF USER LIST

- The seven top-rated turnkey system buying criteris listed in descending order are: completeness of system; quality and completeness of documentation; reliability of system; flexibility of applications software; scope of applications software not reduced by future releases; breadth of applications software; and fast system response time/overall performance.

- Note that four of the seven top buying criteria are related to software. For this report, note the key criterion, price, is in the bottom quartile.

- Users indicate that completeness of the system (i.e., inclusion and integration of all application software modules) is one of the most important of the seven top-ranked turnkey system buying criteria.

- Price was in position number 16 of the 21 ranked turnkey system buying criteria. It is viewed by buyers as a minor, not major, characteristic in the overall selection process. However, it plays a central role in terms of qualifying a vendor for future consideration during the vendor screening process. Thus, price strategy must be carefully assessed, but only in the context of the total buying decision.

- The real message here is that vendors should sell to the user key buying criteria, and after they have closed the sale on those criteria, vendors should "negotiate" a price.

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COMPLETENESS OF SYSTEM AT TOP OF USER LIST

Ranking of Criteria Buyer	Buyer Decision Criteria
1	Completeness of System
2	Quality and Completeness of Documentation
3	Reliability of System
4	Flexibility of Applications Software
5	Scope of Applications Software Not Reduced by Future Releases
6	Breadth of Applications Software
7	Rapid System Response Time/Performance
⋮	⋮
16	Price

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C. VENDORS MISPERCEIVING USER ATTITUDES

- By misperceiving user buying criteria, turnkey vendors are losing sales and unnecessarily eroding margins.

- Significant differences between user and vendor perceptions exist in these areas:

  - Breadth of applications software.

  - Flexiblity of applications software.

  - Scope of applications software will not be reduced by future releases.

  - Price.

- Vendors continue to overestimate the importance to the customer of vendor-related buying criteria. Vendor reputation, vendor commitment to its markets, and vendor financial stability rank within the top half of vendor criteria. Vendors need to get in step with real user perceptions.

- Documentation remains a misperceived buying criterion by users and vendors. Users see documentation as the number 2 criterion; vendors rank documentation as number 13 of 20 identified factors. Users who are the first to realize the payoffs from good documentation continue to expect turnkey vendors to provide high-quality documentation. Vendors who are responsive to user needs are most likely to prosper.

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VENDORS MISPERCEIVING USER ATTITUDES

Buying Criteria	User Perception	Vendor Perception
Breadth of Applications Software	A	C
Flexibility of Applications Software	A	C
Scope of Software Not Reduced in Future Releases	A	C
Price	C	A

Buying Criteria

Quality ← User Perception

Vendor Perception → Price

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D. VENDOR MANAGEMENT STIFLING OPPORTUNITIES

- For many turnkey vendors, current financial strategies are inhibiting their ability to provide more innovative and flexible pricing approaches. This is the result of locking in past pricing practices.

- Hardware-based turnkey system pricing, used often by management, is detrimental to the success of minicomputer- and microcomputer-based turnkey vendors.

- An additional frustration among many pricing decisionmakers is lack of management support for more creative pricing approaches. It often demands market information which is either non-existent, sketchy, or expensive to collect on an ad hoc basis.

- Management must immediately:

  - Balance financial considerations with market and customer realities.

  - Seek alternative pricing methods that move away from the traditional hardware-based turnkey pricing.

  - Initiate a coordinated effort to collect, analyze, package, and disseminate market and pricing information.

  - Create sales programs that focus on actual user needs and buying criteria, not vendor perceptions.

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EXHIBIT II-4

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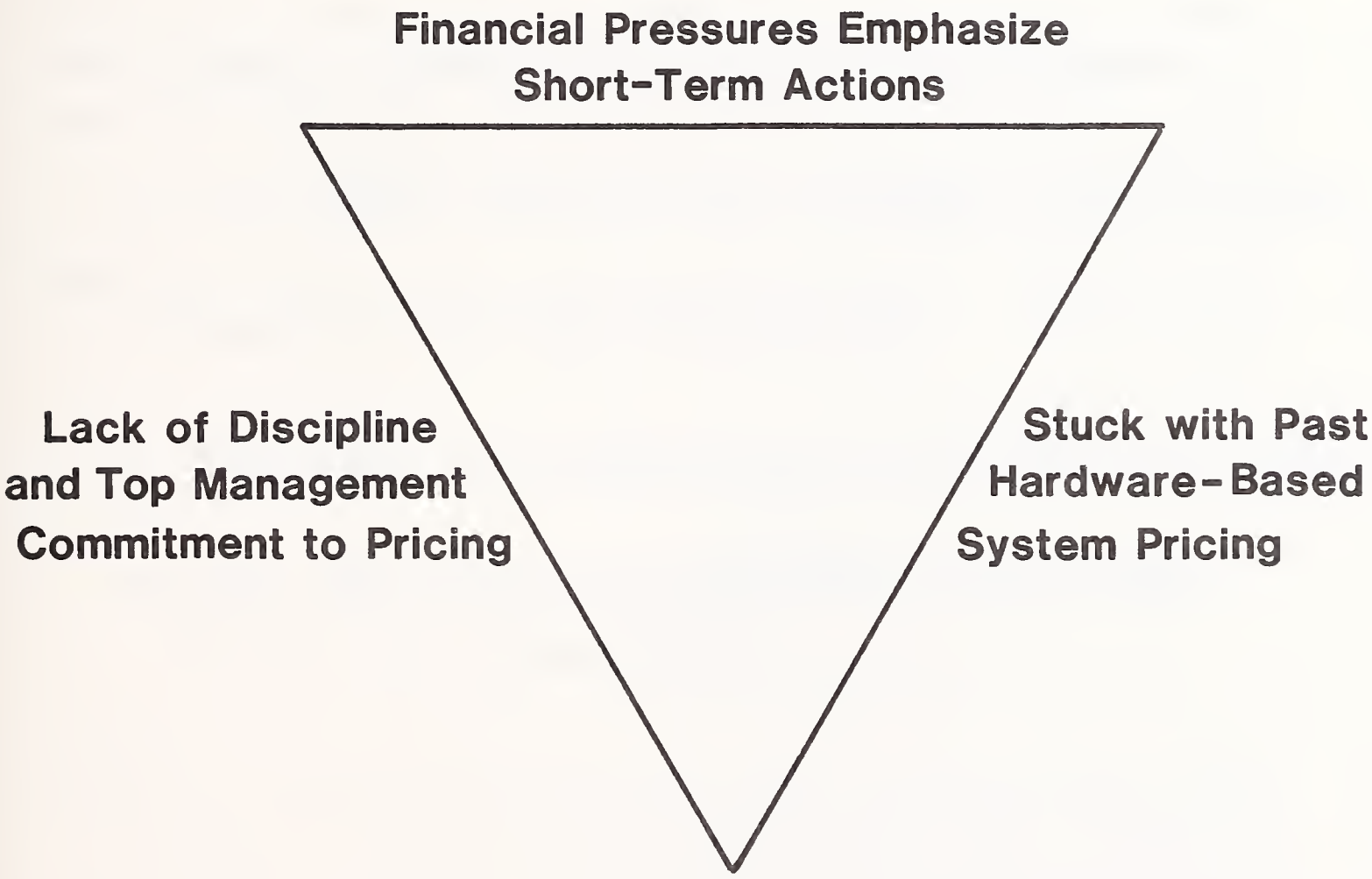
VENDOR MANAGEMENT STIFLING OPPORTUNITIES



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E. ELEVATE ROLE OF PRICING STRATEGY

- Vendors are urged to give pricing a more central role in marketing strategy. A corporate strategy effectively balancing marketing, finance, operations, and sales must be firmly in place before the role of pricing can be elevated.

- Consider more innovative pricing approaches. Simply because something was not done in the past is no excuse for not considering it in the future; times change. Think how worse off users would be without Hewlett-Packard's pioneer effort in "guaranteed up-time" for computer hardware.

- Frequent review of turnkey system pricing is now a market requirement brought on by:

  - New competitors.

  - Increased price competition.

  - More microcomputer-based turnkey systems.

- Careful attention should be given to the relationship between the financial requirements of the corporation and the pricing strategy of its systems. A financial strategy should be developed which supports and encourages any pricing strategy to be implemented that is responsive to new market opportunities.

- Discount policies should be approached with extreme caution and respect. They are not a short-term band-aid to close sales and prop up this quarter's earnings; they should be developed based on long-term business objectives.

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EXHIBIT II-5

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ELEVATE ROLE OF PRICING STRATEGY

- Give Pricing a More Central Role
- Try More Innovative Pricing Approaches
- Review Pricing Frequently
- Develop a Supporting Financial Strategy
- Set Discounts Based on Long-Term Business Objectives

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F. CONSIDER INNOVATIVE PRACTICES

- The non-mainframe computer industry, now nearly 30 years old, is just breaking out of its relative infancy. More established industries use more customer-oriented practices to get around the pricing dilemma. Ideas such as accepting trade-ins of used high tech equipment or offering prospective purchasers a trial period to lessen the inevitable, but controllable, buyer's remorse need to be considered.

- Nowhere is it written that the computer industry cannot resort to gimmickry to attract business. Offering a choice of pricing plans to the customer and offering discounts for customer decision variables that heavily affect your business move all parties away from direct dollars and cents negotiations.

- Pricing is not the first topic in the customer's mind. After establishing a price range (to help remain in the ball game), offering services such as leasing assistance lessens the brunt of the system price. More important is selling the user perception of the buying criteria.

- Consider product support features and services as competitive weapons, not as corporate overhead. Improved documentation; professional, extended customer training; and responsive hardware and software support can be used to keep in close touch with customers, thereby learning the real (rather than the perceived) customer needs.

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EXHIBIT II-6

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CONSIDER INNOVATIVE PRACTICES

- Emphasize User Buying Criteria
- Select Innovative Combinations of Criteria
- Pricing Structure Based on Bundled Criteria

User Criteria	Completeness of System	Documentation	System Response Time	User Training
High	X	X		
Medium			X	X
Low				

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III TURNKEY SYSTEM PRICING TRENDS: THREE-YEAR FORECAST

III TURNKEY SYSTEM PRICING TRENDS: THREE-YEAR FORECAST

A. OVERVIEW

- Turnkey system pricing is not static, rather, it is the sum of many changing pricing components.
- This chapter evaluates:
  - Recent price levels.
  - Future price levels.
  - Pricing expectations.
  - Pricing volatility.

B. RECENT PRICE LEVELS

1. PRICE LEVELS OF MICRO- AND MINI-BASED SYSTEMS

- INPUT estimates that overall turnkey system prices decreased at an average annual rate of 4% between 1980 and 1985.

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- The CAD/CAM/CAE turnkey systems market segment showed similar declines, although reported over a three-year rather than five-year period.

- INPUT has identified a number of factors, some with positive influences but more numerous and more significant ones with negative influences, which contributed to the overall decrease in turnkey systems prices.

  - Between 1970 and 1980, minicomputer and microcomputer CPU prices declined approximately 20% per year on the basis of equivalent computing power.

  - From 1980 to 1985, prices for a mini or micro CPU of equivalent power have decreased approximately 8% per year.

  - Prices for individual computer peripherals (disk drives, terminals, and printers) have declined at approximately a 3% annual rate.

- Since today's systems are configured with more disk storage and terminals to perform data processing tasks, the net result is an increase in the peripherals content of a multi-user computer system.

- Combining the factors shown above, multi-user computer system list prices have increased during the past five years by approximately 3% per year.

2. THE EFFECT OF MICROCOMPUTERS

- Low-cost, single-user microcomputers entered the picture in 1979 with a major increase in 1982 in the number of personal computers shipped as a result of IBM's market entry.

- The result of improved technology (especially in the peripherals area), increased competition, and more available applications software is that retail

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prices of microcomputer systems have declined 19% per year between 1980 and 1985.

- Between 1980 and 1985, annual prices for major system components increased (decreased) as follows:

Component	Percent Increase (Decrease) Per Year 1980-1985
CPU	(8%)
Systems Software	2%
Applications Software	(3%)
Peripherals (Printers, Terminals and Disk Drives)	(9%)
Communications Software	4%
Communications Hardware	13%
Average Annual Price Change	(19%)

- More sophisticated software has forced users of microcomputers in business applications to purchase systems with larger main memory and disk storage capacities, thereby offsetting the individual products' price declines.

- Communications products that enable single-user microcomputers to function similar to multi-user systems are contributing factors to increasing turnkey systems prices.

- Communications products, which typically sell for between 40-55% of the price of a single-user PC, contributed a 4.5% annual growth rate for the past three years toward increased prices of microcomputer-based, multi-user turnkey systems.

- Although microcomputer-based turnkey systems prices are decreasing, micro-based systems represent less than 15% of 1985 overall turnkey system unit shipments and corresponding dollar values.

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C. FUTURE PRICE LEVELS

- Exhibits III-1 through III-3 highlight 17 characteristics of the 1985 turnkey marketplace which INPUT believes will have a measurable impact on the level of turnkey systems prices during the next several years.

- INPUT's evaluation system is based on a scale of -3 to +3. A minus indicates the effect of reducing turnkey prices; zero indicates no effect on system pricing; and a plus indicates the effect of raising prices.

- As shown in Exhibit III-1, key user factors affecting turnkey system pricing levels are:

  - Growth in number and variety of applications, which lessen competition on a price basis.

  - Hardware and software maintenance and documentation, which are alternatives to competing on a price basis.

  - Sophistication of buyers who will better understand the buying process and its ramifications, and are likely to include lawyers in negotiations.

- From Exhibit III-1, less important user factors affecting turnkey system pricing are:

  - Lessened vendor loyalty with increasing competiton, thus lowering prices.

  - As more companies see computer systems as a competitive weapon, vendors will not have to resort to price as a sales tactic.

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EXHIBIT III-1

USER FACTORS AFFECTING TURNKEY SYSTEM PRICING LEVELS, 1985

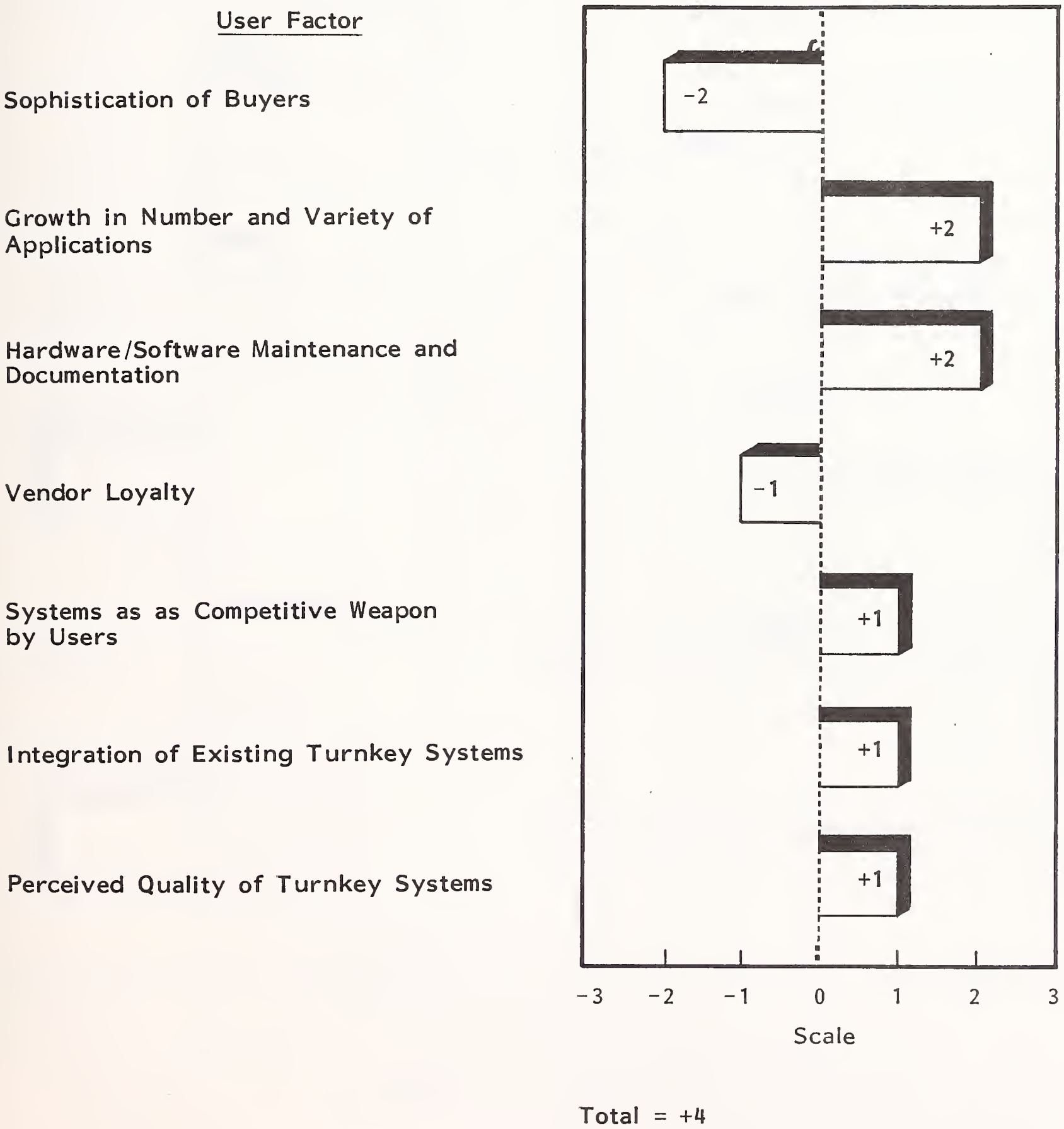

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EXHIBIT III-2

COMPETITIVE FACTORS AFFECTING TURNKEY SYSTEM PRICING LEVELS, 1985

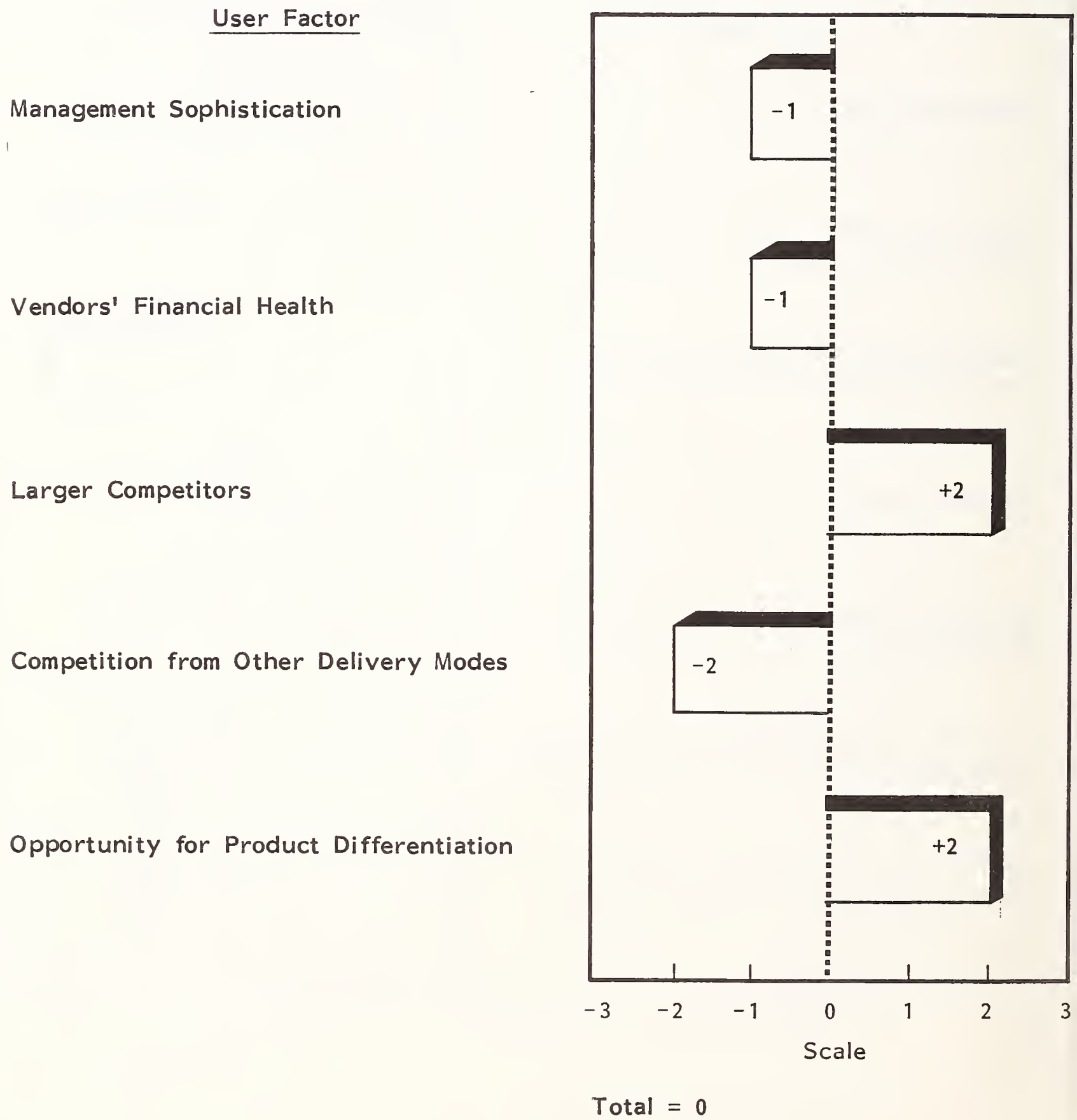

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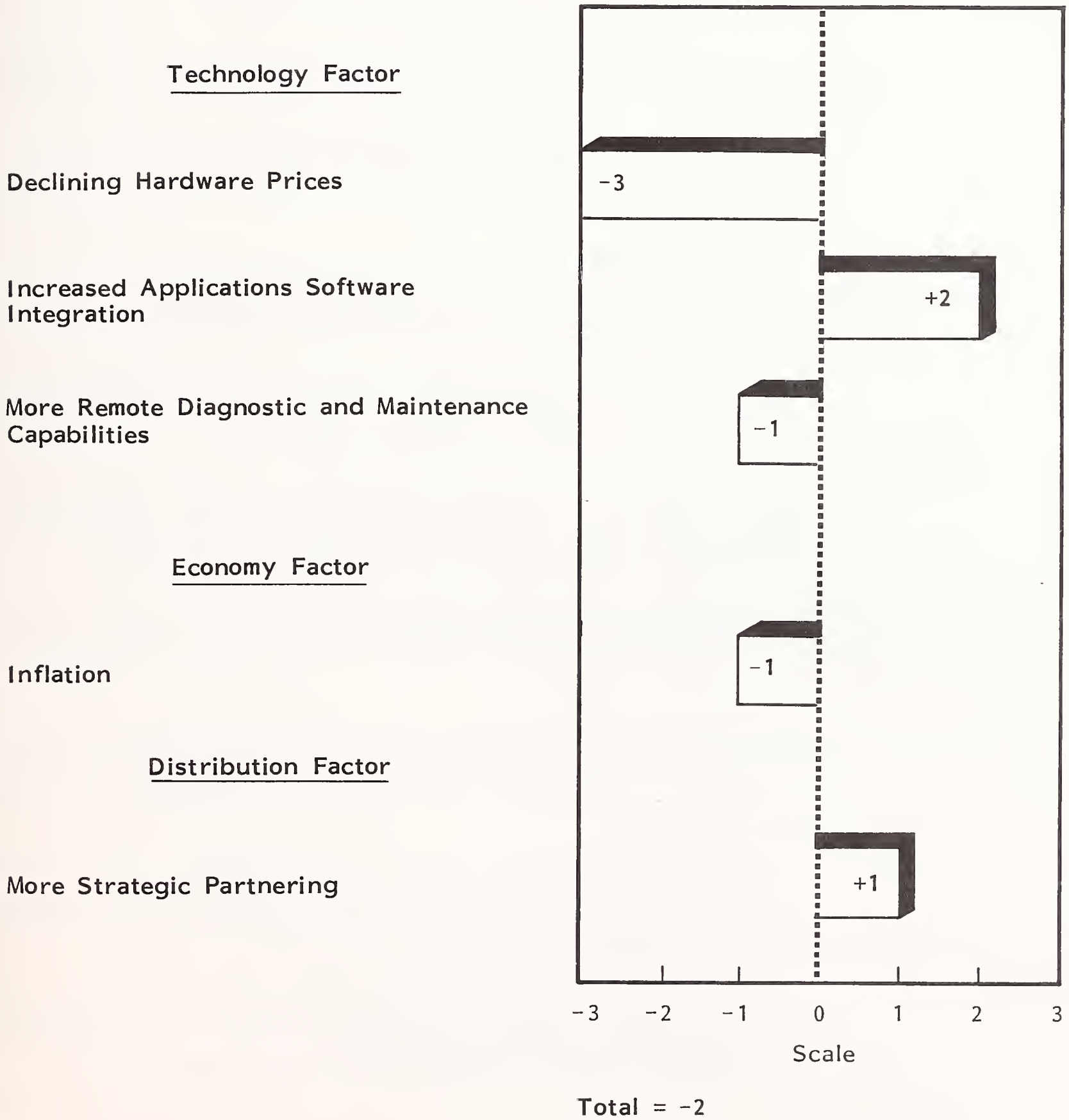
EXHIBIT III-3

OTHER FACTORS AFFECTING TURNKEY SYSTEM PRICING LEVELS, 1985



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- The high added value from integrating existing systems lessens competition based on price.

- As perceived quality of turnkey systems rises, vendors can charge higher prices.

- As shown in Exhibit III-2, the competitive factors affecting turnkey system pricing levels are:

  - Larger competitors whose heavy expense bases are likely to lead to price increases.

  - Competition from other delivery modes impeding price increases.

  - Growth in product differentiation indicative of more sophisticated marketing providing opportunities to increase prices.

  - Turnkey vendors' moves toward more realistic long-term marketing and financial goals to counteract short-term pressures on pricing.

- As shown in Exhibit III-3, other factors affecting the levels of turnkey system pricing are:

  - Declining hardware prices, a key factor, lowering what can be charged for software and support, thereby exerting tremendous downward pressure on prices.

  - The demand for increased application software integration providing an arena for increasing turnkey prices.

  - Increasing remote diagnostic and user maintenance capabilities lowering support costs, or price increases to cover support costs.

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- Inflation, now at approximately 3% and expected to increase to 6% per annum, limiting price increases on turnkey systems.

- More strategic partnerships covering distribution and support, resulting in better distribution and support economics, adding yet another built-in limit to price increases.

D. PRICING EXPECTATIONS BY SIC CODES

- INPUT estimates prices of turnkey systems for the CAD/CAM, medical, telecommunications management, federal government, and niches within the banking/savings and loan markets to rise faster than overall turnkey systems pricing. This is due to:

  - Product differentiation in CAD/CAM/CAE applications translates to less price-based competition.

  - Higher than average growth in these markets supports new entrants, especially those vendors selling microcomputer-based turnkey systems offering quality systems and complete solutions.

  - Unique federal government requirements foster innovative, but relatively expensive, turnkey solutions.

  - Deregulation or changes in governmental regulation of these industries.

  - An expected increase in the networking of installed systems leads to greater sales of non-discounted add-on products, thereby maintaining overall price levels.

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- INPUT expects prices of turnkey systems for the manufacturing, medical/legal, wholesale, retail markets to rise less quickly than prices for all categories of turnkey systems. We believe this is the case for the following reasons:

  - Emerging standards (such as the GM/MAP protocol) reduce the number of differentiated products, thereby lowering prices of existing products.

  - Increased competition in the medical and wholesale/retail markets will drive prices down.

- Exhibit III-4 shows INPUT's estimates of average price levels for 1985, 1988, and 1990. The composite average price of all turnkey systems will increase 5% by 1988, and is expected to grow to 8% by 1990.

- INPUT believes user expectations will emphasize hardware and software support, single call problem resolution, one vendor accountability, and such innovations as on-line user documentation to drive the market. New technologies will have to support these requirements, rather than users meshing their work patterns with new technologies.

E. PRICING VOLATILITY

- Turnkey systems are as unique as the markets they are designed to serve. One measure of the stability (and hence predictability) of a given market area is the examination of the range of price changes now experienced.

- Three turnkey systems markets (medical, CAD/CAM/CAE, and wholesale/retail) demonstrate the volatility of pricing between 1984 and 1985.

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EXHIBIT III-4

EXPECTED TURNKEY SYSTEM PRICE LEVELS BY SIC CODE

SIC DESCRIPTION	PRICE LEVEL INDEX (1985 = 100)		
	1985	1988	1990
Discrete Manufacturing	100	102	103
Process Manufacturing	100	105	109
Transportation/Utilities	100	105	108
Telecommunications	100	107	112
Wholesale/Retail	100	103	106
Banks/Savings and Loans	100	104	108
Finance/Insurance	100	104	107
Medicine/Education	100	106	110
Business Services	100	104	108
Government	100	106	111
Average	100	105	108

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- Price changes in the medical turnkey market range from -9% to 14%.

- Price changes in the CAD/CAM/CAE market range from -3% to 6%.

- Price changes in turnkey systems serving the wholesale/retail distribution market range from -3% to 8%.

- The greatest pricing volatility was shown in the rapidly changing medical turnkey systems market, followed by wholesale/retail distribution and the CAD/CAM/CAE turnkey markets.

- Major influencing factors on pricing volatility, in decreasing order, are: the relative maturity of the market segment, new market entrants due to new technologies, the degree of software module integration, government influences on specific industries, and the promptness of vendors' responses through new high-quality applications software.

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IV PRICING APPROACHES: USER ATTITUDES VERSUS VENDOR PRACTICES

IV PRICING APPROACHES: USER ATTITUDES VERSUS VENDOR PRACTICES

A. OVERVIEW

- The selection of a particular set of pricing approaches by turnkey systems vendors, a complex process balancing the needs of many departments, occupies a significant amount of senior management time.

- The decision process is lengthy and often irrational, and the available marketplace information concerning buyer preferences, competitor actions, etc. is typically not gathered and analyzed. The result is opinion-based decisions, not data-based decisions.

- This chapter profiles the different approaches to pricing in terms of:

  - Discounting.

  - Customer support.

  - Add-on hardware purchases.

  - Add-on software purchases.

  - Actions by software vendors which affect turnkey system pricing.

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B. BUYING CRITERIA: USER VERSUS VENDOR PERCEPTIONS

- Exhibit IV-1 summarizes user rankings of buying criteria. Software characteristics and system documentation are the highest ranking user buying criteria.

- Vendors perceive the top turnkey system user's buying criteria as sell-related characteristics. Exhibit IV-2 gives details of vendor perceptions of user buying criteria.

- Even more than in the past, software "sells" the turnkey system.

- Exhibit IV-3 compares only those criteria for which users and vendors had significantly different perceptions.

- A significant difference is one where vendor and user perception "groups" (A, B, and C) differed by two letters.

- Vendors perceived only one criterion, price, as important where users rated price in the lowest quartile.

- Users rated the following three areas as significant. Vendors percieved these three criteria as relatively unimportant.

  - Breadth of applications software.

  - Flexibility of software.

  - Scope of software not reduced in future releases.

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EXHIBIT IV-1

USER BUYING CRITERIA

GROUP	BUYING CRITERIA
A	Top-Ranked
	Completeness of System
	Documentation (Quality and Completeness)
	Reliability of System
	Flexibility of Applications Software
	Scope of Software Not Reduced by Future Releases
	Breadth of Applications Software
	Performance/Quick System Response Time
B	Middle-Ranked
	Ease of Conversion from Data Processing Service, Facilities Management, or Batch Computer Service
	Hardware Maintenance
	Customer Training
	Timeliness of Software Updates
	Software Maintenance
	Quality of Applications Software
	Data Communication Capabilities
	Capability to Integrate with Other Installed Systems
	Vendor Commitment
	Vendor Reputation
C	Bottom-Ranked
	Price
	Delivery
	Vendor Financial Stability
	Technology Considerations

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EXHIBIT IV-2

VENDOR PERCEPTIONS OF USER BUYING CRITERIA

GROUP	BUYING CRITERIA
A	Top-Ranked
	Capability to Integrate with Other Installed Systems
	Performance/Quick System Response Time
	Price
	Vendor Reputation
B	Middle-Ranked
	Vendor Commitment
	Reliability of System
	Hardware Maintenance
	Completeness of System
	Customer Training
	Vendor Financial Stability
	Technology Considerations
	Ease of Conversion from Data Processing Service, Facilities Management, or Batch Computer Service
	Documentation (Quality and Completeness)
C	Bottom-Ranked
	Scope of Software Not Reduced in Future Releases
	Breadth of Applications Software
	Flexibility of Applications Software
	Quality of Applications Software
	Data Communication Capabilities
	Software Maintenance
	Delivery

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EXHIBIT IV-3

COMPARISON OF USER AND VENDOR RATINGS OF USER BUYING CRITERIA

BUYING CRITERIA	GROUP RANK BY CATEGORY OF RESPONDENT	
	USER	VENDOR
Completeness of System	A	B
Documentation	A	B
Reliability	A	B
Breadth of Applications Software	A	C
Flexibility of Applications Software	A	C
Scope of Software Not Reduced in Future Releases	A	C
Software Maintenance	B	C
Quality of Applications Software	B	A
Data Communication Capabilities	B	C
Integration Capabilities with Other Vendors' Systems	B	A
Vendor Reputation	B	A
Vendor Financial Stability	C	B
Technology Considerations	C	B
Price	C	A

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C. DISCOUNTING

1. EXTENT OF DISCOUNTING

- Discounting has become a standard practice in the turnkey systems area.

- INPUT estimates that vendors offer discounts to buyers of turnkey systems in 60% of sales negotiations.

- The extent of discounting being experienced is primarily due to the following factors:

  - Increasing percentages of larger contracts which include central purchases of multiple units for use at separate operating locations.

  - Heightened competition, both from vendors trying to maintain their cash flow and from vendors determined to enter new markets.

  - A more discount-aware buyer who is experienced in negotiating with sellers of turnkey systems. Discounting tends to feed upon itself. As discounts become more common, buyers become more insistent that they receive a discount because "all the other vendors offer them."

2. TYPES OF DISCOUNTS

- Most turnkey system discounts fall into one of the following categories.

  - Multiple units.

  - Dollar volume of contract.

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- Alpha or beta site discount.

- "Early purchaser" discount.

- Multiple unit and large dollar volume contracts "reward" the large purchase for substantial commitment.

- Key customers who are willing to act as the development (alpha) or testing (beta) site can negotiate a price concession from the vendor.

- "Early purchase" discounts are most frequently offered to targeted key accounts to induce them to purchase a system. These key accounts are credible, major firms whose recommendations could ultimately help the turnkey vendor sell additional systems. The importance of referenceable accounts in selling large turnkey systems should not be underestimated.

- Due to past practices, buyers consider alpha/beta site testing and "early system purchase" as discounts. The motivating force for the buyer is really need; the discounts represent money "left on the table" by turnkey vendors.

- INPUT strongly suggests vendors not give concessions to alpha or beta purchasers. In fact, vendors should consider charging extra to companies whose early purchase will enable them to get a lead on their competitors.

3. RANGE OF DISCOUNTS

- First, a caveat. Software discounts by turnkey system vendors are not uniform; discounts depend heavily on the industry served and the degree of competition in that target market.

- The average discount from list price offered by turnkey system vendors is 14%.

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- Industries with greater than average discounts include:
  - Medical.
  - Process manufacturing.
  - Transportation.
  - Utilities.
  - Wholesale distribution.
  - Banking/savings and loans/finance.
  - EDP services
- Industries with less than average discounts include:
  - Government.
  - Discrete manufacturing.
  - Retail distribution.
  - Insurance.
  - Education.
  - Business services (except EDP services).

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4. DISCOUNTING CHARACTERISTICS

- Approximately 65% of all turnkey systems vendors offer price reductions as the primary discount.

- INPUT estimates price reductions are used by greater than 90% of turnkey system vendors.

- The following two discount approaches are the most often used alternatives to outright price reductions.

  - Free customer education/training.

  - Free hardware (add-in main memory, disk upgrades).

- In markets characterized as highly competitive or penetrated by micro-computer-based turnkey systems, discounts are giving way to frequent price decreases for the basic system.

- Despite lower list prices for turnkey systems, customers in small, well-defined markets expect discounts (discussed in more detail in Chapter III).

5. DISCOUNT FORECASTS

- INPUT forecasts that discounting will continue to play a visible role in the purchase of turnkey systems during the next five years. It is expected that a greater proportion of "complete" systems will be sold on a discounted basis across horizontal and vertical markets.

- Factors influencing these discount trends include:

  - Buyer expectation of discounts based on prior experience.

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- Increasing awareness of discounts by prospective purchasers.

- Weak sales management that allows discounting to hold the deal together.

- No breakthrough in terms of the basic economics of doing business for turnkey system vendors. The increasing use of microcomputer-based systems is likely to raise overall discount levels since the customer could buy the software from a competing vendor.

- To make the software as available as possible, the astute vendor of microcomputer-based turnkey systems will make his software available separately. Retail prices for this software should be set at a higher level than that charged for the same software sold as part of a turnkey system.

- INPUT recommends vendors use proprietary firmware to create a unique solution, thereby removing a direct incentive to discount.

D. ROLE OF HARDWARE ADD-ONS IN PRICING

- The additional hardware purchased is usually terminals, add-in main memory, or disk drives.

- Within 18 months of turnkey system purchase, add-on hardware purchases amount to 25-30% of initial system price.

- Although sales of add-on products provide a predictable revenue source that balances the lower margin of the initial system purchase, it should not be considered a justification to discount up front.

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- If sales records show a $1,000 initial system followed in two years by $1,000 in add-on hardware, vendors should build a pricing strategy that will maximize profit over the longer life cycle.

- Add-on hardware is dicounted primarily for large companies; i.e., those who have purchased multiple turnkey systems for use at multiple sites.

- If the vendor must discount add-on hardware, then consideration should be given to improved payment schedules or a negotiated delivery date. This date gives the vendor a chance to lump other add-on hardware purchases in order to receive a larger discount.

E. ROLE OF SOFTWARE ADD-ONS IN PRICING

- Add-on software modules purchased within 18 months of the initial system may yield 20% additional revenues.

- Vendors should analyze sales records to ascertain the percentage of software sold as add-on. If certain applications packages are usually sold as add-ons, then that software could be priced higher.

- As with sales of add-on hardware, if a $1,000 initial system is followed in two years by $1,000 in add-on software, vendors should build a pricing strategy that will maximize profit over the longer life cycle.

- Additional software revenues stabilize support, training, and software maintenance revenues. Much of the revenues from additional software modules go directly to the bottom line.

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F. PRICING OF SOFTWARE SUPPORT

1. PRICE RANGES AND SERVICES

- Approximately 90% of turnkey vendors have a separate annual charge for maintenance and support of software.

- Charges for software maintenance include:

  - Three to four updates per year.

  - Releases of upgrade versions of applications software.

  - Telephone assistance.

- Software maintenance charges may include a certification from government regulators accepting this vendor's format for computer submitted reports. Vendors who meet this requirement in a timely manner should consider additional charges for this certification.

- Examine the services provided to each customer from a "win-win" perspective. Details of each customer's usage of vendor services can be provided at an extra charge, thereby helping the customer control usage of vendor services (which, in fact, seldom happens) while generating additional revenues.

2. USER ATTITUDES

- Users prefer the first year's support charges be bundled with the initial price of the system.

- For budget reasons, users in a wide range of manufacturing and service businesses prefer fixed monthly charges with annual revision to support prices.

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- Given this background, vendors could offer monthly, quarterly, or semi-annual payment of hardware or software maintenance fees with corresponding charges greater than one-twelfth, one-fourth, or one-half of annual rates.

G. ACTIONS BY SOFTWARE VENDORS WHICH AFFECT TURNKEY SYSTEMS PRICING

- Traditional software vendors, especially those selling CAD/CAM/CAE packages, will sell hardware to a customer.

- Leasing, the customer's desired financing method, is the most common reason for software vendors to sell hardware.

- Leasing of software is taking place in industries where the software vendor takes certain steps. That vendor must guarantee to the leasing company that the software can and will be resold by the vendor's sales force, thereby establishing a resale market. CAD/CAM/CAE software firms are becoming increasingly involved in this practice.

- Since "software sells systems," turnkey vendors must ensure that the range of products and services they offer exceeds what is available from the combination of software vendors and hardware manufacturers.

  - Turnkey vendors add considerable value through "single point accountability" and should charge accordingly.

  - For "one stop shopping" and the important integration of applications software, turnkey vendors should charge a price greater than that charged by the combination of hardware and applications software vendors.

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V THE PRICING PROCESS

V THE PRICING PROCESS

A. OVERVIEW

- Turnkey vendors acknowledge the growing importance of proper pricing to their overall market success and economic health. At the same time, many expressed their desire to improve the methods they use for price setting and implementation.

- This chapter profiles vendors' attitudes concerning pricing as well as their approaches to it.

B. DEGREE OF SATISFACTION

- When vendors (all of whom were pricing decisionmakers or strong recommenders) were asked how "comfortable" they were regarding their current pricing strategies, many indicated that room for improvement exists (see Exhibit V-1).

- When questioned specifically on why their comfort level was not higher, many respondents indicated:

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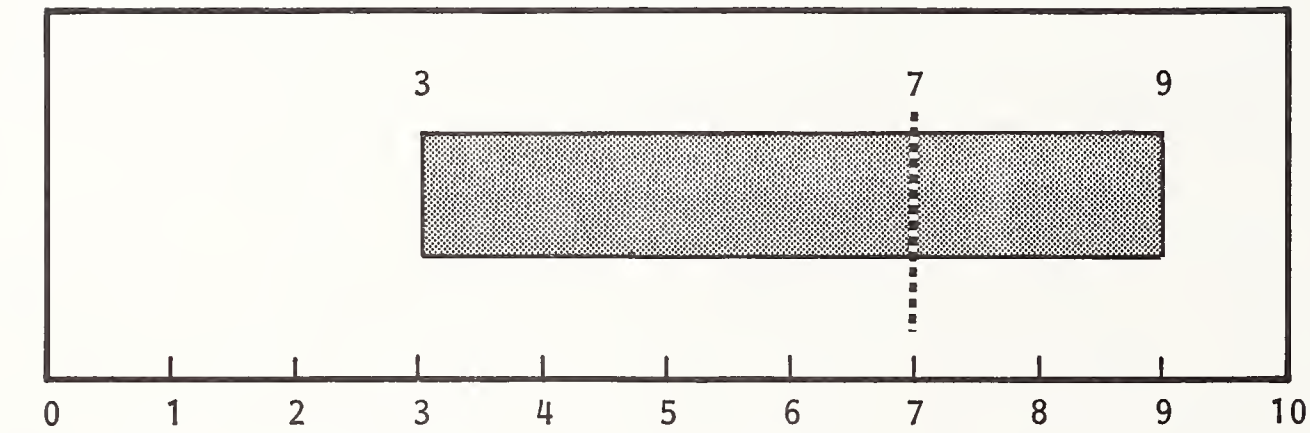
EXHIBIT V-1

VENDOR "COMFORT" LEVEL CONCERNING
CURRENT PRICING STRATEGIES



Low High

Degree of "Comfort" Concerning Pricing Strategies

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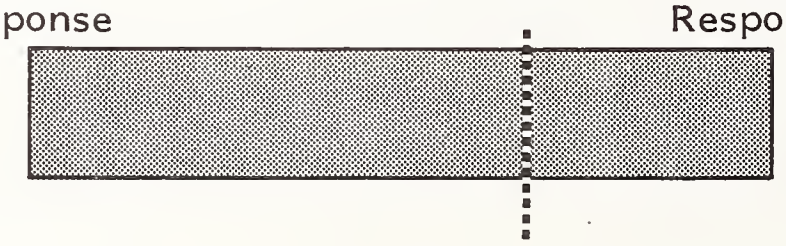

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- Their frustration with pricing rigidity embedded in the philosophies of top management.

- Lack of top management recognition of input from sales management representing the findings of field sales persons.

C. FREQUENCY OF PRICING REVISIONS

1. OVERALL SYSTEM

- Turnkey vendors passively approach complete system price revisions, as shown in Exhibit V-2.

  - Only 35% of the respondents indicated a change in turnkey system prices in the past 12 months.

  - The majority (55%) of respondents indicated a change in overall system pricing in the past 12-18 months.

- Clearly, vendors' pricing revisions lag overall market dynamics. Increased competition from vendors of micro-based systems and other delivery modes is forcing vendors to evaluate system pricing at least every six months.

- INPUT recommends vendors review system pricing at least every six months or whenever a major event threatens to change the marketplace structure.

2. HARDWARE ADD-ONS

- Turnkey vendors passively approach hardware add-on price revisions, as shown in Exhibit V-3.

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EXHIBIT V-2

FREQUENCY OF PRICING REVISIONS--COMPLETE SYSTEM

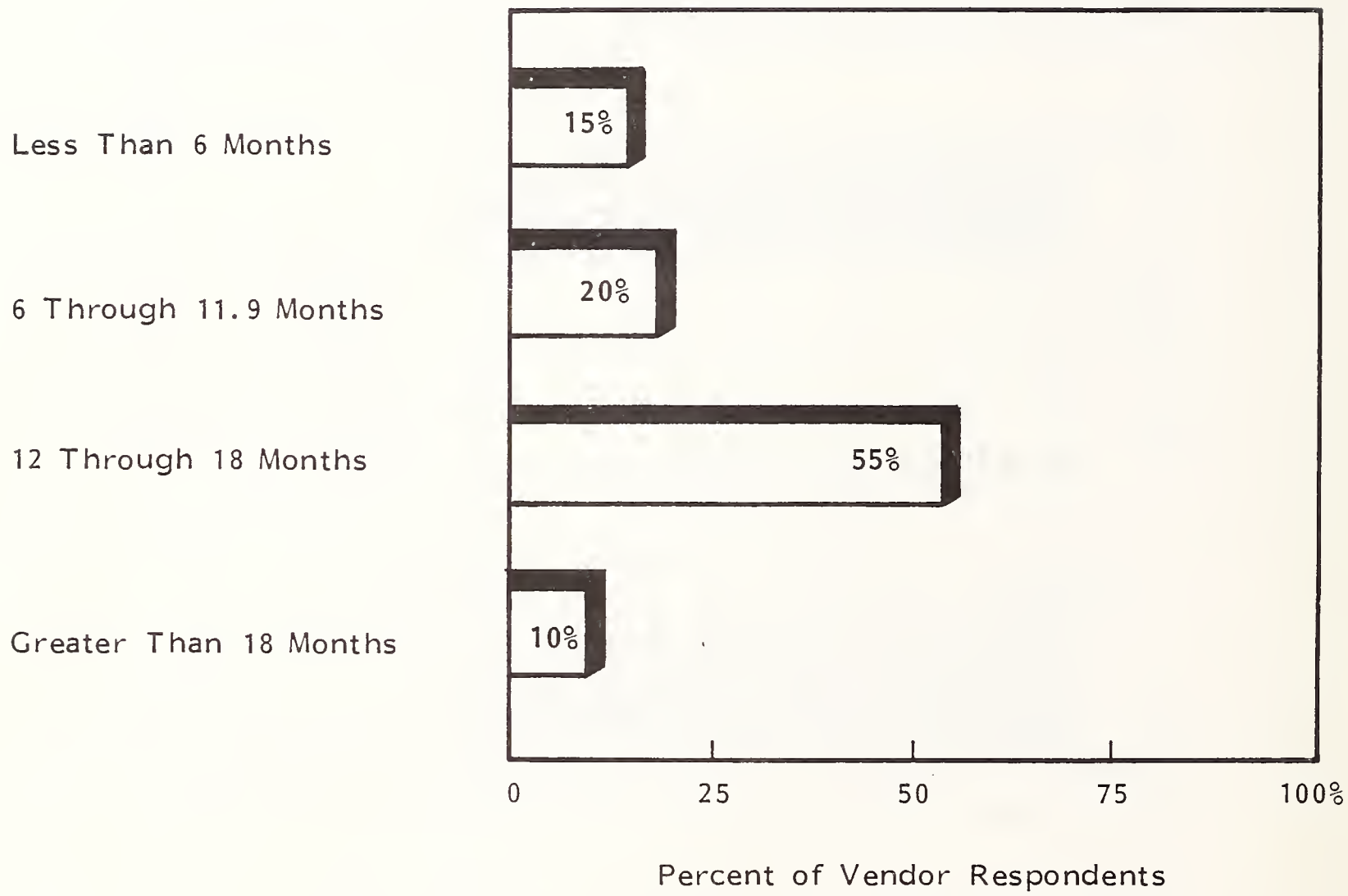

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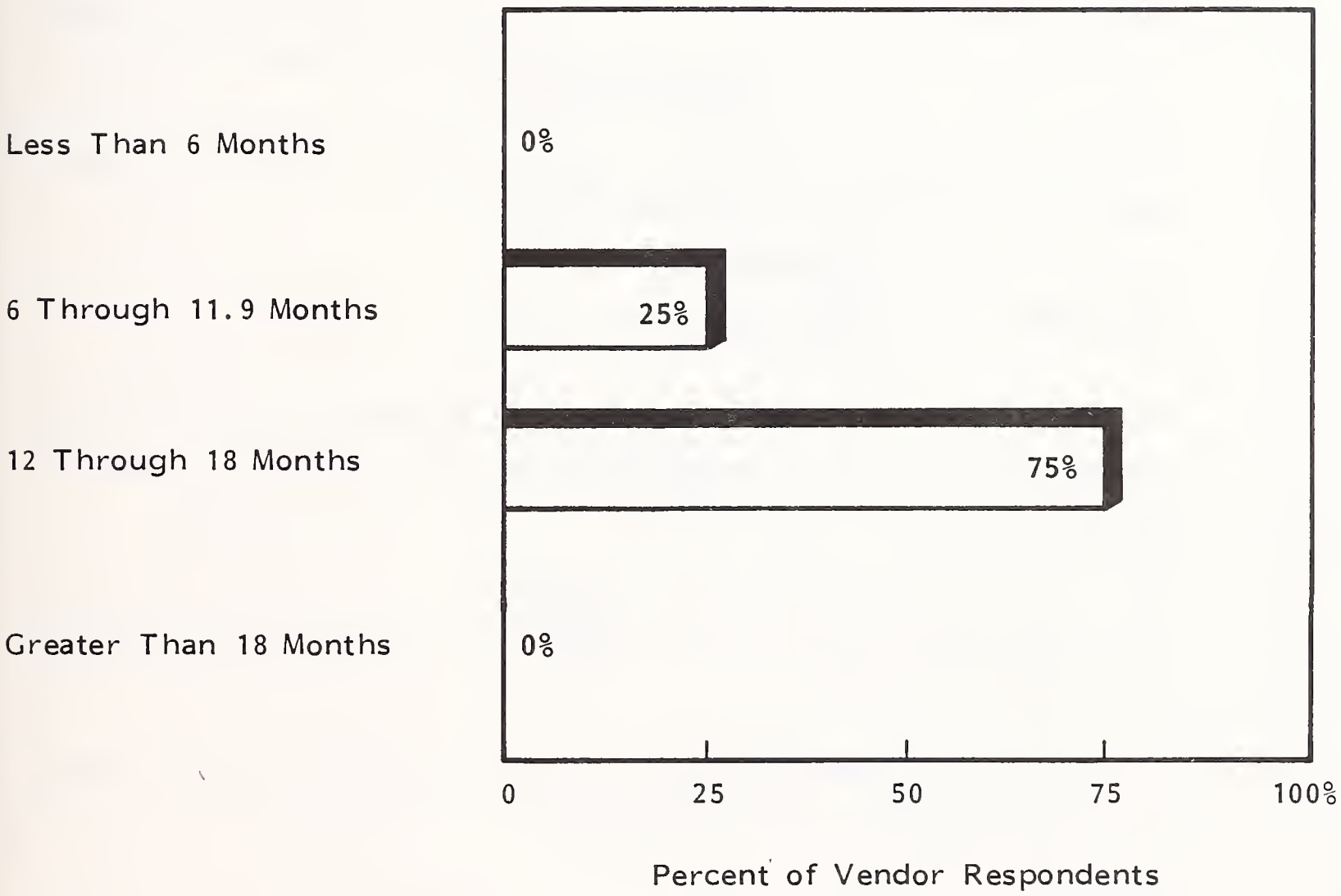
EXHIBIT V-3

FREQUENCY OF PRICING REVISIONS--HARDWARE ADD-ONS



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- Only 25% of the respondents indicated a change in prices of hardware add-ons in the past 12 months.

- The great majority (75%) of respondents indicated a change in hardware add-on pricing in the past 12-18 months.

- Pricing of hardware add-ons also lags changes in the turnkey systems market. Since prices of turnkey systems must be evaluated more frequently, it follows that prices of hardware add-ons should be evaluated as frequently.

- INPUT recommends vendors review pricing of hardware add-on at least as frequently as the pricing of turnkey systems.

3. CUSTOMER TRAINING/EDUCATION

- As shown in Exhibit V-4, turnkey vendors have approached pricing of customer training/education relatively more often than pricing of the overall system or hardware add-ons.

  - Forty percent revised prices for customer training/education within the past 6-12 months.

  - Changes to customer training and education within the past 12 months were reported by 70% of respondents.

- Vendors are aggressively approaching pricing to customer training and education since 70% of respondents reported changes to this function within the past year. INPUT believes this flurry of pricing activity represents vendors' recent recognition of customer training and education as a separate profit center.

- Since training and education is rapidly becoming a profit center, INPUT recommends vendors review pricing at least every six months to ensure competitive practices and a growing revenue stream.

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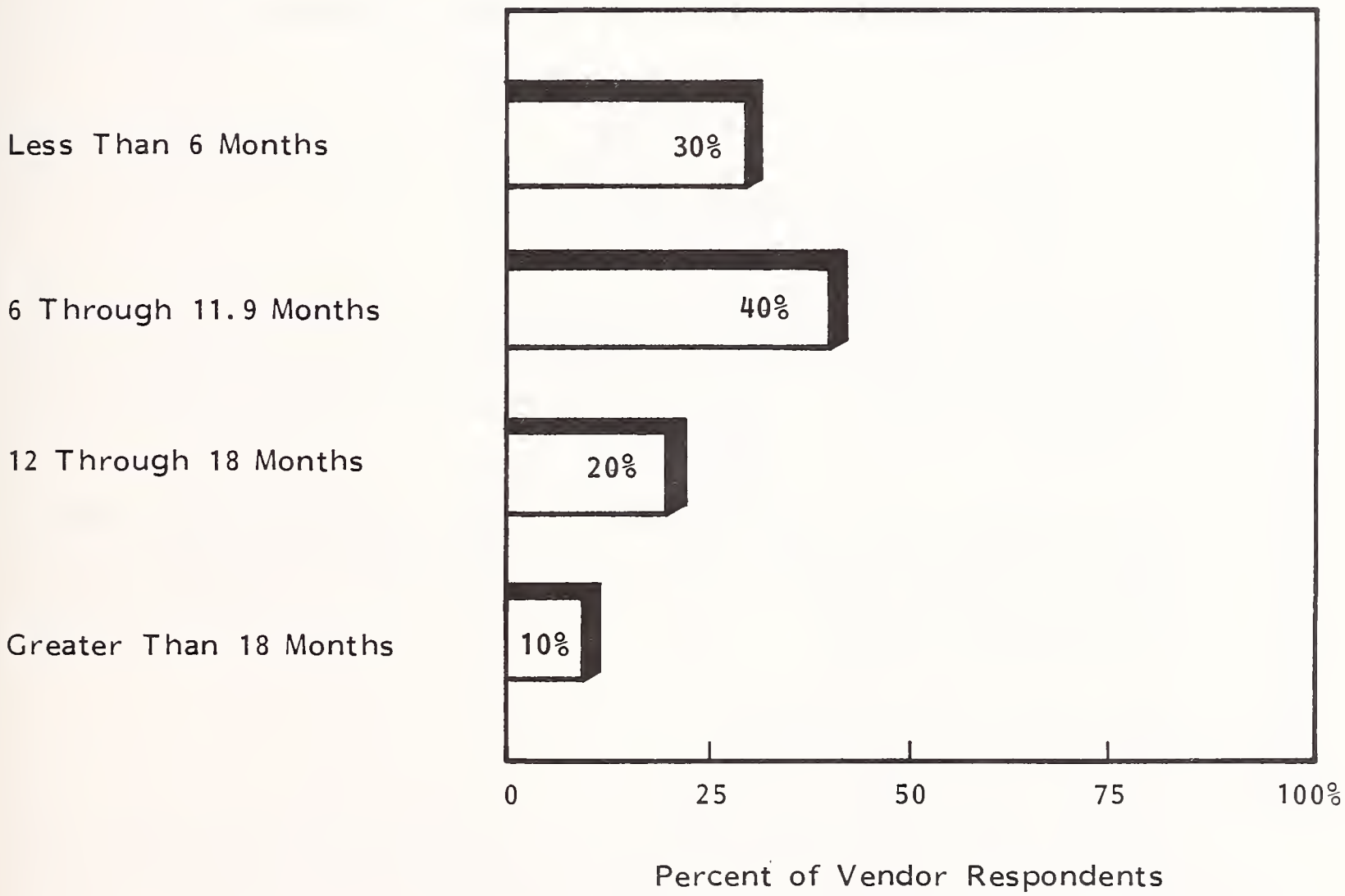
EXHIBIT V-4

FREQUENCY OF PRICING REVISIONS--CUSTOMER TRAINING/EDUCATION



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4. SOFTWARE MAINTENANCE

- As shown in Exhibit V-5, turnkey vendors have approached pricing of software maintenance with nearly the same frequency as pricing of customer training and education.

  - Fifty percent revised prices for software maintenance within the past 6-12 months.

  - Changes to software maintenance within the past 12 months were reported by 70% of respondents.

- Since vendors have improved their analyses of the costs of software development and maintenance, vendors use software maintenance as a primary means to recapture revenues.

- As customers expect more and better quality software support, INPUT expects software maintenance fees to rise to reflect the increased cost of providing these services.

5. HARDWARE MAINTENANCE

- Turnkey vendors have approached pricing of hardware maintenance with nearly the same frequency as pricing of hardware add-ons, as shown in Exhibit V-6.

  - Seventy percent revised prices for hardware maintenance within the past 12-18 months, compared to 75% for hardware add-on price revisions.

  - Changes to hardware maintenance within the past six months were reported by only 10% of respondents.

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EXHIBIT V-5

FREQUENCY OF PRICING REVISIONS--SOFTWARE MAINTENANCE

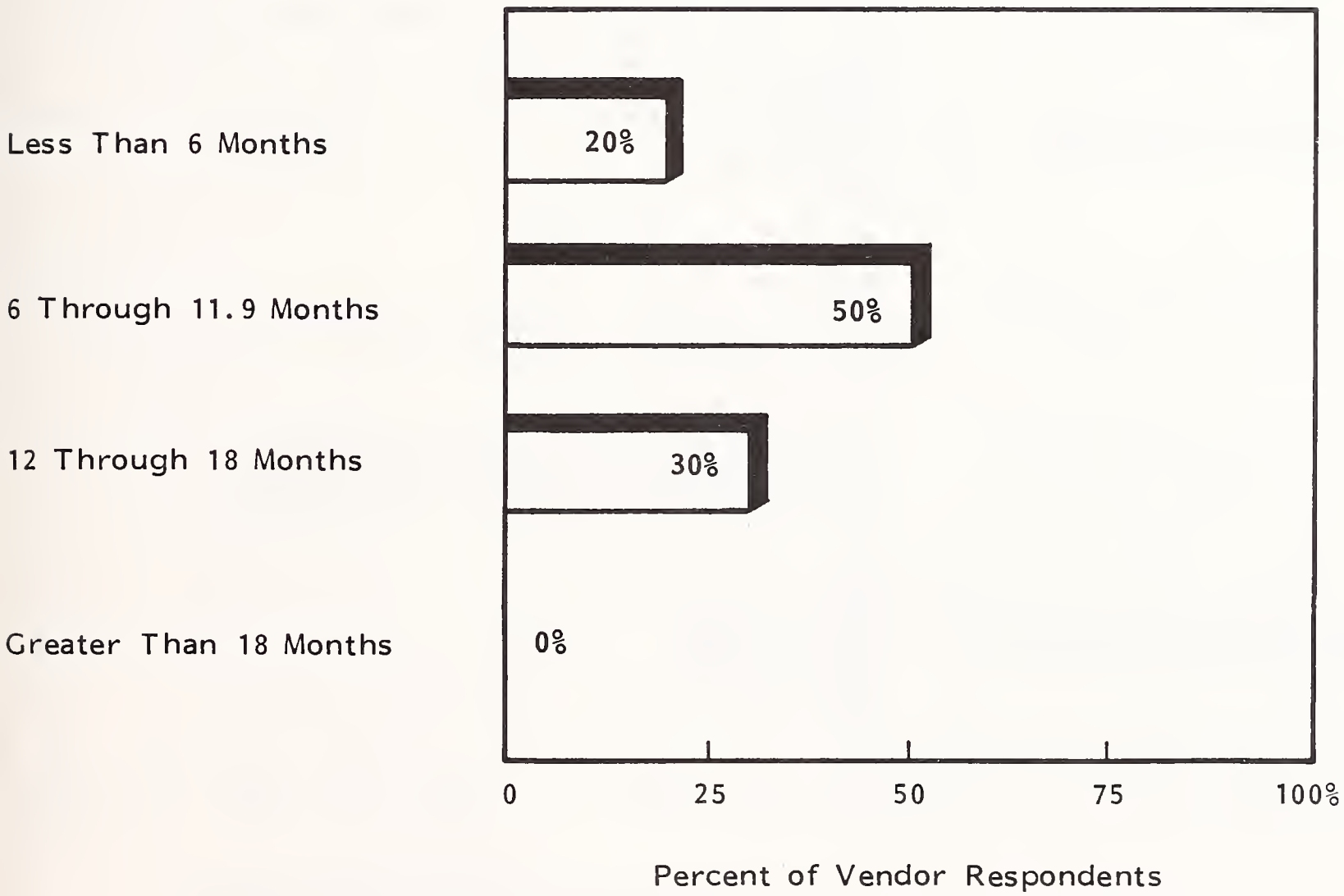

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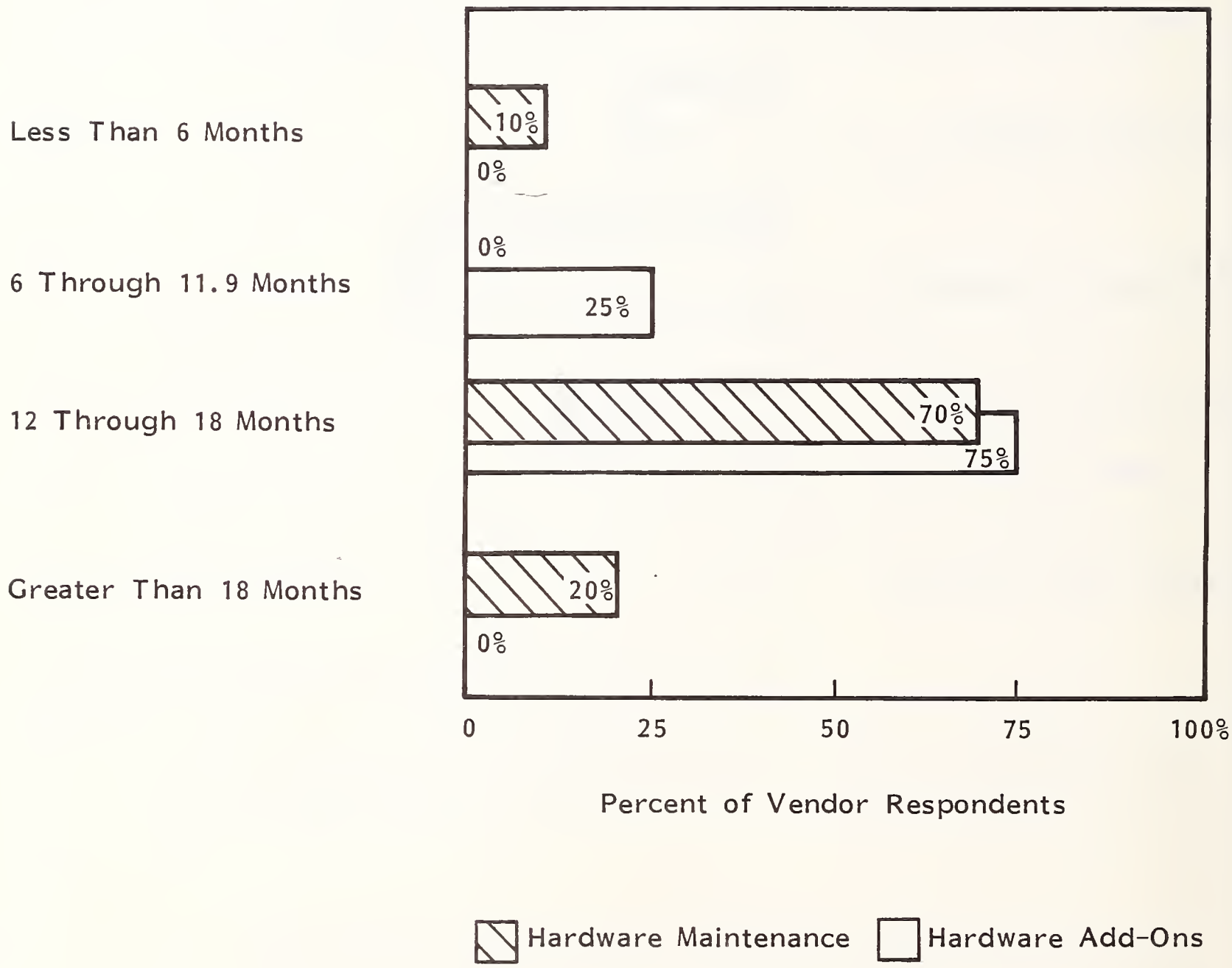
EXHIBIT V-6

FREQUENCY OF PRICING REVISIONS--HARDWARE MAINTENANCE



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- INPUT estimates that only 35% of turnkey vendors offer hardware maintenance and that 80% of these vendors support microcomputer-based turnkey systems. As part of the trend toward "single call service," INPUT expects more vendors of minicomputer-based turnkey systems to offer hardware maintenance through third parties.

- Although hardware maintenance is now offered by only about one-third of turnkey vendors, INPUT recommends hardware maintenance pricing be reviewed at least annually to remain competitive with actions of minicomputer manufacturers and third-party maintenance organizations.

D. PRICING INVOLVEMENT

1. CURRENT SITUATION

- Most vendors have numerous people in various job functions involved in the pricing process, as shown in Exhibit V-7. Most of the pricing finalization is done at the vice-presidential level or higher.

- Field sales personnel are involved in pricing at only 30% of turnkey vendors.

2. OTHER CONSIDERATIONS

- While INPUT believes sales feedback is important, by no means should short-term feedback from the sales force be the sole outside source.

- Sales feedback is often "one day old news," a rehash of the visit to the last prospective customer. While price is an easy reason used by sales reps when they could not close the deal, price ranks low on the customer's list of decision criteria.

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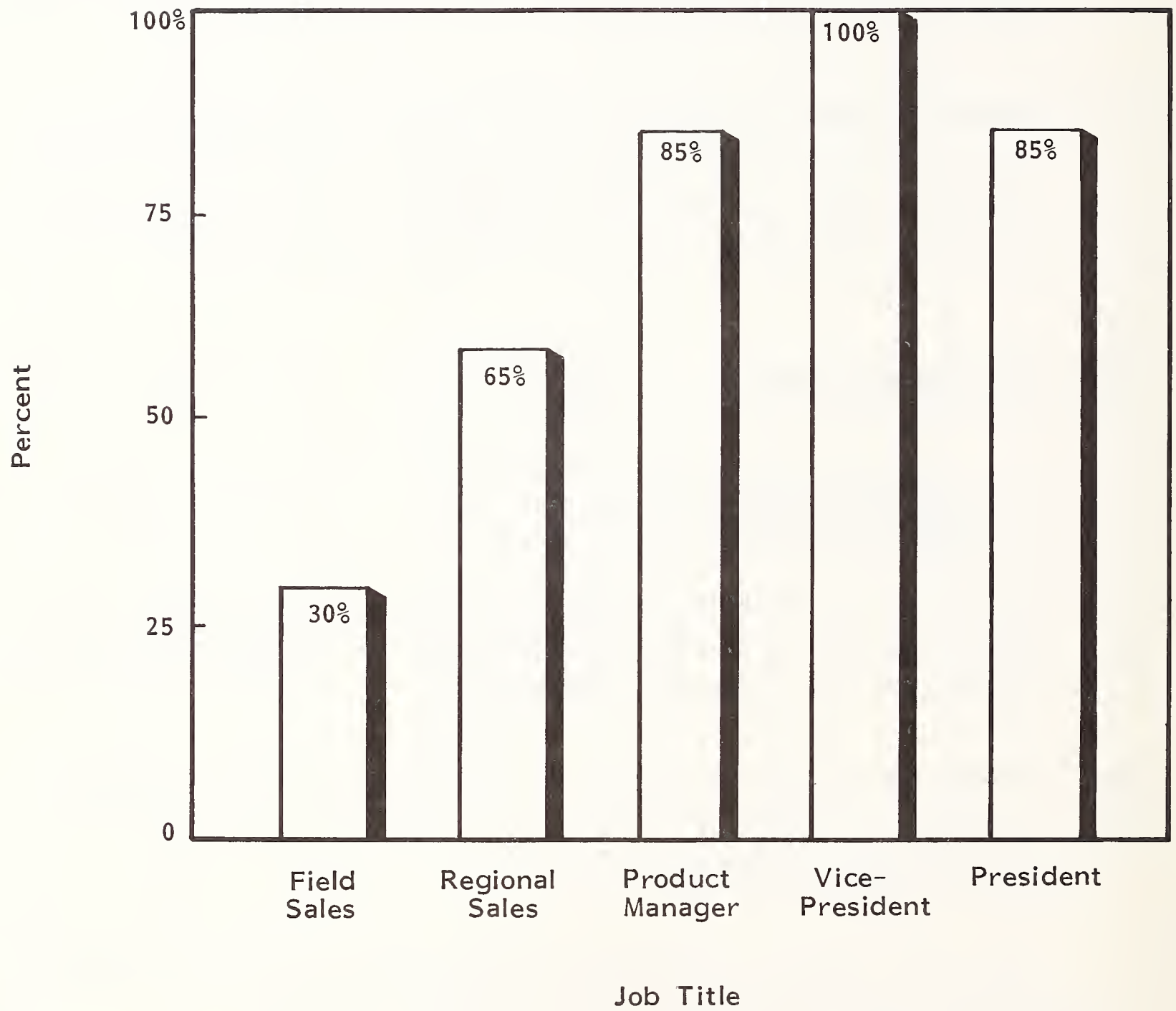
EXHIBIT V-7

PRICING INVOLVEMENT BY JOB TITLE



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- It is left to marketing to find the "real" reason for account resistance. INPUT believes the product managers should play an increased role in gathering prospect and customer information. This can be accomplished through:

  - Written questionnaire for completion by sales reps asking "why" accounts were won or lost.

  - Telephone interview of key decisionmakers at lost acounts.

  - Establishment of a system for tracking and analyzing information on lost and current accounts.

- Sales management can help the process by providing "pipeline" or "funnel" analysis on each sales rep. Funnel analysis, presented in Exhibit V-8, can be used to track a sales rep's overall progress. If that rep does not have a certain number of presentations, product demonstrations, and proposals in the works, then pricing is not the problem.

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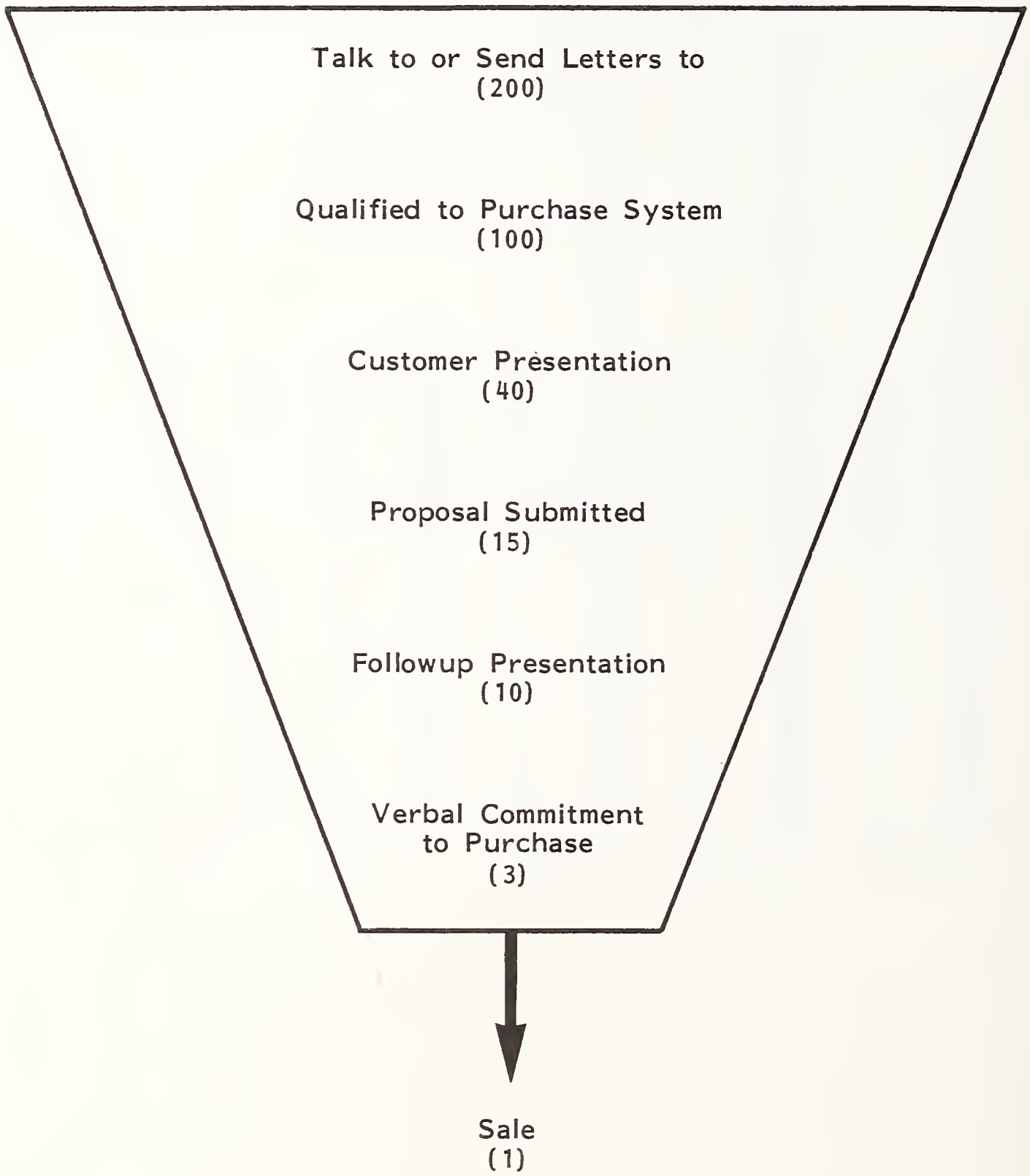
EXHIBIT V-8

"FUNNEL" ANALYSIS OF SALES REPRESENTATIVE'S ACTIVITIES



Legend: Activity described on top line
Number of suspects/prospects needed shown in parentheses

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VI PRICING STRATEGY CONSIDERATIONS

VI PRICING STRATEGY CONSIDERATIONS

A. OVERVIEW

- Too often pricing strategy is based more on past company practices than on responsiveness to market directions or innovative practices.
- This chapter examines pricing from the following standpoints:
  - Pricing's role in the purchase decision.
  - Theoretical approaches to setting prices.
  - External influences on setting prices.
  - Changing prices.
  - Pricing considerations and innovations.

B. PRICING'S ROLE IN THE PURCHASE DECISION

- Sophisticated purchasers of data processing equipment consider the expected cost of the system over its useful life, not just the initial cost and existing technology, when evaluating vendors' proposals.

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- Users justify the purchase of a turnkey system for reasons other than pure cost reduction. Purchasers' reasons include:

  - Productivity improvements.

  - Improved customer service.

  - Competitive advantage.

  - Protection of company confidential information and data.

- Pricing is seldom the customer's primary determinant in the buying process, usually ranking relatively far down the list of buying criteria.

- From Chapter IV, users indicate the following factors, listed in decreasing order, are of primary importance in the decision to buy a turnkey system:

  - Completeness of system.

  - Documentation.

  - Reliability.

  - Flexibility of applications software.

  - Scope of software not reduced by future releases.

  - Breadth of applications software.

  - Performance/quick system response time.

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- Large organizations with national or international operations are also concerned with:

  - Service and maintenance capabilities in operating locations.

  - Vendor financial stability.

  - Breadth of the vendor's product line.

C. THEORETICAL APPROACHES TO SETTING PRICES

- INPUT has identified seven theoretical approaches to setting turnkey systems prices on the basis of:

  - Charging what the traffic will bear.

  - Perceived value to the user.

  - Price/performance.

  - Number of users supported.

  - Cost to manufacture.

  - Timing of market entry.

  - Matching company and product image to system price.

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1. CHARGING WHAT THE TRAFFIC WILL BEAR

- From the vendor's point of view, charging what the traffic will bear would seem the ideal way to price a turnkey system.

a. Advantages

- Starting with a high price may establish an image of quality in the buyer's mind.

- A high price can always be lowered during negotiations; a low price cannot be raised.

b. Disadvantages

- Significant limitations to "charging what the traffic will bear" manifest themselves (see Exhibit VI-1).

2. PRICING ON PERCEIVED VALUE TO THE USER

- Basing the price on the perceived value of the system to the user is a more rational approach to price setting. While more rational, it is also a more risky approach since it involves intimate knowledge of the customer's business and the buying process.

a. Advantages

- Since the vendor must intimately understand the user's business in order to employ this pricing approach, the turnkey product is more likely to be a better product.

- Perceived value pricing yields the greatest return on the vendor's investment.

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EXHIBIT VI-1

LIMITATIONS TO "CHARGING WHAT THE TRAFFIC WILL BEAR"

LIMITATION	DISCUSSION
Industry Information	- Reports on Computerization of That Industry - Reports on What Users Have Paid for Turnkey Systems
Trade Associations	- Sponsor Forums on Important Topics - Participants Compare Computers and Costs at Meals or Informal Discussions
User Expectations	- High Initial Price Leads to Higher User Expectations - Low Initial Price Implies Inferior Product
Follow-On Business	- If the Initial System is Overpriced, then Potential for Follow-On Business is Greatly Reduced - Follow-On Business is Vital to Business Success

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b. Disadvantages

- Determining what system features or vendor attributes are truly valuable to the customer and how to charge for them is difficult at best.

- Market research to determine this specific knowledge would be valuable; however, few firms invest in market research before setting prices.

- Perceived value is hard to quantify; this approach would best be used in tandem with other pricing algorithms.

3. PERFORMANCE-BASED PRICING

- Pricing on the basis of performance is an outgrowth of computer industry managers' fascination with numbers and measurement.

a. Advantages

- Performance-based pricing can be defined, measured, and compared over time.

- Performance-based pricing may best meet the needs of the customers. For example, sophisticated purchasers of turnkey CAD/CAM/CAE systems need performance data to help justify the purchase.

b. Disadvantages

- Disadvantages of performance-based pricing are shown in Exhibit VI-2.

4. NUMBER OF USERS SUPPORTED PRICING

- Pricing on the basis of the number of users supported, a variation on peformance-based pricing, has the same limitations as performance-based pricing.

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EXHIBIT VI-2

PROBLEMS WITH PERFORMANCE-BASED PRICING APPROACHES

PROBLEM	DISCUSSION
Performance Definition	- Performance is Usually Defined on the Basis of Hardware Performance - Performance Excludes Software Efficiency or User Response Times
Predictable Future Performance	- Over Time, Performance-Based Pricing is Linear - Does Not Reflect Improvements in Applications Software
No Measurement of Value	- No Incentive to Increase Perceived Value of Software, Training, and Support

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5. COST-BASED PRICING

- Cost-based pricing, in theory a sound approach, is in reality the approach considered by the turnkey vendor's chief financial officer.

a. Advantages

- Knowing costs and industry markups is vital to establishing a price that covers costs and provides for a reasonable profit.

- Costs can be measured and provide a solid backdrop against which to establish prices.

b. Disadvantages

- The most obvious limitation to cost-based pricing is the accurate measurement of costs, especially those related to software development and operation of the customer support department.

- A second limitation is the margins offered to resellers, if the turnkey vendor also resells the software separately through reseller-focused distribution channels. To be competitive, the turnkey vendor must meet or exceed margins offered by competitors.

- Cost-based pricing ignores the customer, the competition, and the perceived value added by the turnkey supplier's software and related services.

6. PRICING BASED ON THE TIMING OF MARKET ENTRY

- Under a market entry timing model, one would expect early entrants into a market for technology-based products to charge what the market will bear.

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- Being first to market in today's environment is no assurance of high prices and continued high margins.

- The company's product and market image must be set to maintain high prices.

- New market entrants or newer technology developments are likely to force prices lower in the short term.

7. MATCHING COMPANY AND PRODUCT IMAGE TO SYSTEM PRICE

- Few sellers of any product match their pricing to the image of the company, the product, and the support.

  - Among manufacturers of high technology products who have successfully implemented this approach, IBM comes readily to mind.

  - This approach places pricing squarely where it belongs, as a reflection of the company's comprehensive marketing approach.

  - In this environment, pricing is derived following a valuation of other factors. Rather than first setting price then limiting the product features and services available in order to meet profit margin requirements, these other factors are considered before setting price.

D. EXTERNAL INFLUENCES ON SETTING PRICES

1. OVERVIEW

- Key external influences on setting prices are:

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- The presence of published discount schedules.

- The prices charged by competitors for similar systems.

- Potential and current customers.

- Prices of services provided by alternate delivery modes.

2. PUBLISHED DISCOUNT SCHEDULES

- Computer hardware manufacturers and software vendors freely distribute published discount schedules to computer industry consultants. These consultants may advise turnkey systems buyers of discounts prior to completing negotiations.

- Discount schedules, which offer a discount for purchases of as few as two units or of a specified dollar value, tell the prospective buyer that:

  - The hardware or system software component is "overpriced" by the percentage discount.

  - Negotiation is an integral part of the buying process of computer systems.

- Since discounts are an integral part of the turnkey system purchase, INPUT advises vendors that published prices should be high.

3. COMPETITORS' PRICES

- Competitors' prices for turnkey systems are a key external factor in setting price levels since:

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- Buyers purchase a system from one of three or four finalists; these "finalist" vendors considered competitors' prices, products, and services (or they would not have become finalists).

- Price levels must be in relation to the product. For example, one vendor is not likely to charge $40,000 for a microcomputer-based turnkey system when competitors are charging $15,000 for a similar microcomputer-based system.

4. CUSTOMERS' INFLUENCE

- Customer directly influence turnkey system pricing by:

  - Rejecting a turnkey vendor's system if price is out of line relative to those of competitors.

  - Rejecting a turnkey vendor's price if it is outside the budget range for the project.

  - The buyer's budget range being determined by looking at the price range of vendor-offered solutions and the buyer's data processing budget.

- Customers indirectly influence turnkey system pricing through their requirements for training and education.

  - In such markets as CAD/CAM/CAE turnkey systems, it is a "given" that customers must be trained to use the system.

  - Improved training and documentation results in less calls to Customer Support to answer basic questions.

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- The amount and cost of providing training must be weighed against the cost of increased technical support staffing.

- In summary:

  - Inappropriate pricing will keep vendors out of the customer's purchase decision; appropriate pricing, as a separate factor, is not likely to win business for the vendor.

  - The nature of the customer and the degree of technical expertise required to use turnkey system applications software indirectly influence system pricing and directly influence pricing of customer support and training.

5. PRICES BY ALTERNATIVE DELIVERY MODES

- Turnkey systems vendors consider prices charged by other delivery modes, especially those modes which now have the strongest penetration of the markets they serve.

- Since turnkey systems sales are often supplanting processing services, prices charged by vendors in this delivery mode must be monitored closely.

- In highly technical applications, turnkey vendors must monitor the prices of standalone software packages which could run on the customer's existing computer system. Although a product/packaging issue, compatible software packages are a potential source of competition.

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E. CHANGING PRICES

- Prices may be changed to reflect increases in easily measured fixed or hard-to-measure variable costs. Key variable costs include:
  - Amount of customization.
  - Extent of software maintenance.
  - The number of user options supported.

1. PRIMARY CONSIDERATIONS

- Vendors' primary considerations in changing prices are:
  - Margins.
  - Competition.
  - Timing of the announcement.
  - Dollar amount of the price change.
  - Customers' perceptions.
- Vendors' margins are not absolute--they are ranges within which to operate. To maintain operating margins, vendors are moving to less expensive computers to develop applications software.
- Expected actions by market-leader firms provide a built-in sanity check on price increases for secondary vendors.

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- Similar to a good comedian, "timing is everything" to a turnkey vendor announcing a price increase. Heed should be paid to he following before announcing a price increase:

  - The turnkey vendor's recent earnings (if publicly held).

  - Trend in turnkey customers' business.

  - Labor intensity of the vendor's turnkey system.

  - Trend in costs for data processing employees.

  - Pricing of alternative delivery modes in relation to prices of turnkey systems.

  - Elapsed time between announcement of price increase and effective date of increase.

- Customer sensitivity is advised when the dollar amount of the price increase is substantial. Although a $10,000 price increase may represent a small part of the initial cost of a large turnkey system, it nevertheless represents a large increase to implement at once.

- In very small vertical markets where information on pricing is quickly disseminated, often system prices can be increased only to new customers.

- Customers would be more amenable to a price increase if it were justified on the basis of new service(s) provided.

- Customers indirectly influence vendors' price changes through expectations and justification.

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- Customers' expectations for increases are based on:
  - Budget forecasts.
  - Inflation rate.
- Customers would prefer to justify additional or new services provided by the vendor.

2. SECONDARY CONSIDERATIONS

- Secondary considerations in making price changes include:
  - Basis for the buyer's decision.
  - Availability of competitive systems.
  - Reactive pricing versus price leadership.
- It is important to evaluate the basis for the customer's original purchase--informal comparison, formal bid process, or bought through a friend. the more formal the buy process, the more likely a customer is to consider change of vendor.
- As a result of proprietary operating systems, unique communication interfaces, or custom software enhancements, few direct alternatives may be available to purchasers of a turnkey system. Although direct choices may not be available, alternatives do exist for customers.
- Vendors must determine whether they will assume the role of leader or follower in announcing price changes. Larger, established vendors have announced price changes once a year. Smaller vendors, although more likely to need the additional revenue, generally wait until the larger firms announce their price increases.

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3. PRICE CHANGES FOR SYSTEM COMPONENTS

- Price increases or decreases can be made for specific components of turnkey systems, namely:
  - Hardware.
  - Software.
  - Training/education.
  - Maintenance.
  - Documentation.
- Selectively considering price increases for system components may lessen buyer resistance, thereby allowing steady, overall revenue increases for turnkey vendors.
- Pricing of the training and education portion is determined by:
  - Using independent consulting rates as a guideline for the labor component of training.
  - Actively monitoring the time spent by the instructor in the classroom.
  - Following industry norms such as the customer paying reasonable travel expenses for the instructor.

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4. THE ROLE OF "GIVE AWAYS" IN VENDOR PRICING

- "Give aways" sometimes help close new business in industries with very narrow pricing bands.

- "Give aways" may include concessions on terms and conditions. However, customer education and training is becoming a popular "give away." INPUT recommends against this practice for two reasons:

  - One, education and training must pay its own way as a profit center.

  - Two, and more importantly, giving away training lowers the customer's perceived value of training before the instructor has even shown up.

- Software customization is not a good area for use as an enticement. The global question becomes: "Should you customize at all?" INPUT believes vendors should not offer software customization since it leads to multiple versions of the same product, resulting in inconsistent support requirements.

- If software customization must be done, vendors should charge for this service. Charging for added value is of paramount importance and custom software provides tremendous added value.

F. PRICING CONSIDERATIONS AND INNOVATIONS

- In the mid 1980s, the computer industry is just emerging from its infancy. It is a great deal to expect the same pricing characteristics in an immature industry as one would find in a mature industry, such as the automobile industry.

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- The following list of pricing considerations and innovations can be applied to the turnkey computer systems industry:

  - If the system supports many on-line users, consider the "price per simultaneous user."

  - Charger higher prices for such "options" as communications products or services.

  - Accept trade-ins of used batch terminals toward purchase of turnkey systems.

  - Offer a "trial period" for potential customers at a discount.

  - Offer to set a "key spares supply point" at the customer's site with corresponding maintenance charges.

  - Consider pricing on a "value to the customer" basis, especially for the software portion of the system.

  - Consider "usage pricing" in high volume environments where your product effectively supports hundreds of transactions per second.

  - Try offering pricing with built-in escalation clauses covering support and maintenance charges.

  - Think about "Japanese car pricing" (one price for a fully loaded preconfigured setup available from vendor's stock--the major choices then become delivery date and payment terms, rather than system configuration combinations plus standard terms and conditions).

  - Consider discounts for order frequency and accuracy of customer equipment forecasts, especially for purchases of add-on peripheral equipment.

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- Think about offering leasing or other financial alternatives.

- Consider a 2% discount for prompt payment or a discount for direct transfer of funds from the customer's bank account to your firm's account.

- Offer milestone pricing: one-third due on order; one-third due upon delivery and installation of hardware; and the final one-third due upon successful software testing and customer acceptance.

- Offer a 50% discount for the price of the software in exchange for monitoring the labor savings and working out a mutually advantageous split based on the savings.

- Above all, be sure the firm's pricing matches its marketing approach.

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VII CONCLUSIONS AND RECOMMENDATIONS

VII CONCLUSIONS AND RECOMMENDATIONS

A. OVERVIEW

- Pricing strategy is one of the least utilized components of market strategy.
- Pricing is generally viewed from a tactical perspective; it is one item in the salesperson's kit for closing a sale.
- INPUT recommends management action in four areas:
  - Pricing role.
  - Pricing process.
  - Pricing policies.
  - Pricing implementation.
- Specific suggestions are presented in more detail throughout this chapter.

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B. CONCLUSIONS

1. THE PROPER ROLE OF PRICING STRATEGY

- Indicators that pricing may be underrated as a critical aspect of marketing strategy are the following:

  - Full pricing reviews of systems, hardware add-ons, software and hardware maintenance, and customer training and education are only conducted every 12 to 18 months, on average.

  - Pricing analysis and decisions are accomplished with limited involvement of middle- and first-level marketing and sales personnel.

  - Pricing is primarily based on a "me too" reaction to polices of leading competitors.

  - Many vendors of minicomputer-based turnkey systems were caught off guard by the rapid ascendency of lower-cost microcomputer-based turnkey systems.

2. THE IMPACT OF FINANCIAL STRATEGY ON PRICING

- Turnkey vendors must live within the economic realities of their marketplace. An organization cannot be considered market-driven if such short-term financial matters as cash flow and/or revenue growth rates override basic marketing decisions.

- Pricing is a central and highly visible set of business decisions which are vital to the long-term prosperity of the entire business enterprise.

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3. THE IMPACT OF ALTERNATIVE DELIVERY MODES ON PRICING

- Effective turnkey system pricing strategy must increasingly take into account alternative delivery modes, specifically:

  - Turnkey pricing in relation to current and projected prices of alternative delivery modes.

  - Turnkey systems prices spanning a range of key price points to avoid being boxed in by alternative delivery modes (for example, systems which sell for $8,000, $14,000, $20,000, $35,000, $55,000, and $100,000).

  - Working with hardware vendors who supply sufficient CPUs and peripherals to cover the range of necessary turnkey system price points.

4. ANTICIPATION OF COMPETITOR PRICING MOVES

- Since turnkey vendors usually change prices at the same time each year, it is a relatively simple matter to anticipate competitors' pricing changes.

- Based on publicly-traded competitors' reported financial performance, scenarios can be developed which anticipate price changes.

5. IMPORTANT ROLE OF FIELD SALES PERSONNEL

- Field sales personnel have a dual role in vendor firms:

  - They are vendor firms' primary customer interface who manage a difficult process of getting and keeping a customer.

  - They act as "forward observers" on customers and competition.

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- The "forward observer" role is seldom used properly by headquarters personnel. Sales reps are ready, willing, and able to supply necessary customer and competitive information to the front office provided the time to complete the request does not override their prospecting and closing activities.

6. PRICING PERCEPTIONS

- Tradition plays a strong role in turnkey system pricing. A major opportunity exists for determined vendors to strengthen their market positon via adopting more creative pricing approaches.

7. TURNKEY SYSTEM PRICE ADJUSTMENTS

- Users will pay price adjustments equal only to the amount of the expected inflation rate.

- Increased functionality must precede price increases; users will not stand for promised increases in functionality. Increased functionality may take the form of improved software features, service, education, or training.

8. HARDWARE/SOFTWARE SUPPORT PRICE ADJUSTMENTS

- Annual price adjustments for hardware and/or software support should at least equal the expected rate of inflation.

- Since users are considering total ownership costs over the expected life of the system, turnkey vendors must keep close watch on support costs and allocation of support personnel.

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9. PRICE STRUCTURE SIMPLICITY

- Pricing a computer system is downright confusing--look at the complexity of the IBM Consultant's Reference Guide. Customers are fearful of things they do not understand.

10. DISCOUNT POLICY

- Hastily implemented discounts usually hurt turnkey vendors in several ways:

  - They establish a "discounter" image. Expectations of discounting lead to further demands for discounting, which tends to feed on itself well into the future.

  - Competitors usually counter with their own discounts, which then results in several vendors being still undifferentiated, but now locked into a lower price level.

  - Discounts threaten profit margins if not based on real changes in the economics of doing business.

11. PRICING AUTHORITY GUIDELINES

- Pricing is the one area in a company that clearly shows the balance between all primary business functions--finance, marketing, sales, and operations.

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C. RECOMMENDATIONS

1. THE PROPER ROLE OF PRICING STRATEGY

- INPUT urges vendors to use the following approaches to increase the role of pricing in their organization.

  - Remind key managers of the positive financial aspects of a 5% or 10% increase in revenues, which can come with little direct cost from a carefully tuned pricing strategy development and implementation program.

  - Sell managers on the need to compare turnkey system pricing to the basic cost of competitive hardware. Mini-based vendors will then be more aware of the influence of high-end microcomputer systems.

  - Realize that market leadership can be gained through innovative pricing approaches.

  - Get more people in the organization involved in market data collection and analysis to affirm the company's commitment to a professional marketing approach.

2. IMPACT OF FINANCIAL STRATEGY ON PRICING

- Turnkey system pricing must first be responsive to customer needs while balancing conflicting internal demands, especially financial considerations.

3. IMPACT OF ALTERNATE DELIVERY MODES ON PRICING

- As vendors of alternative delivery modes are affected more by sales of turnkey systems, these vendors will likely sell turnkey systems.

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4. PRICING POLICY REVIEWS

- Because of the rapid change in the turnkey systems marketplace, INPUT recommends that vendors establish a policy of reviewing their entire pricing structure at least once every six months or whenever a dramatic market event occurs.

- INPUT recommends that vendors initiate a systematic approach to gathering, tracking, and reporting marketing intelligence so that information for a thorough pricing review is readily available.

5. ANTICIPATION OF COMPETITOR PRICING MOVES

- Changes to existing Terms and Conditions can be an effective weapon against the leading turnkey system vendors; e.g., delivery, order or installation milestones, or payment terms.

6. IMPORTANT ROLE OF FIELD SALES PERSONNEL

- INPUT strongly recommends:

  - An increased role for field sales personnel in the market intelligence process.

  - A more active role for marketing managers through establishing and collecting information on sales reps' account wins and losses and using this information to lessen field sales reps' dependence on price concessions to close new business.

7. OPPORTUNITIES FOR PRICING INNOVATIONS

- Areas where INPUT believes important opportunities lie include:

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- Pricing as customers perceive its relative importance in the purchase decision.

- Pricing primarily on a value, rather than mainly a cost, basis.

- Pricing for such services as training, education, support, improved documentation, and on-line help facilities.

8. TURNKEY SYSTEM PRICE ADJUSTMENTS

- Vendors must improve functionality, service, documentation, or training before they can expect to receive price increases greater than the inflation rate.

9. HARDWARE/SOFTWARE SUPPORT PRICE ADJUSTMENTS

- To ensure hardware costs fall within the 1% per month customer limit, vendors should investigate:

  - The cost of hardware support through third parties.

  - The use of remote diagnostics linking the user's site with the vendor's technical support staff.

- If software support costs exceed 12% per year (1% per month), consider the following new services in order to raise prices:

  - Implementation audits to help customers assess if they are using the software in the most effective way.

  - More education alternatives, such as computer-assisted or videotape-based training.

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- More educational tools (i.e., tools to help educate users in the business function that the software product addresses--for example, training on the use of CAD/CAM/CAE principles for users of design software).

10. PRICE STRUCTURE SIMPLICITY

- To the savvy turnkey vendor, the needless complexity of pricing and configurations represents a marketing opportunity. An easily understood price structure would benefit customers, sales reps, and sales administration.

- Admittedly, competitors would likely copy this approach. However, the overall turnkey systems business would be significantly ahead with a simplified price structure.

11. DISCOUNT POLICY

- Use add-on sales of hardware and software at or near list price and selective increases in software and hardware support to counteract the devastating effects of discounting.

- INPUT recommends vendors avoid reducing list prices due to the prevalence of discounting in the purchase process.

- INPUT urges vendors to establish discounts based on a careful analysis of long-term goals, economics, and the implications of competitor response.

12. TIMING OF PRICE CHANGES

- Times for price change announcements which are often advantageous include:

  - When a new system, product feature, option, or version with increased functionality is released.

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- January of a calendar year (everyone is psychologically prepared to adjust to a new environment at the beginning of a new year).

- Summertime, especially August (if it is a price increase, people may be preoccupied with vacation-induced priorities and often will pay less attention to it).

- Turnkey vendors must monitor the time between announcement of a price change and the effective date of that change. A long gap gives competitors ample time to respond.

- If announcing a price increase, INPUT suggests vendors wait a relatively long time, two months for example, after the market leader announces an increase to give the market time to react and to buy time to measure the reaction.

- If announcing a price decrease, INPUT suggests vendors consider announcing relatively soon after market leaders have announced a decrease.

- Rather than announce across-the-board price increases or decreases, INPUT recommends vendors use selective announcements based on marketing and financial strategies.

13. PRICING AUTHORITY GUIDELINES

- Prices should be changed by a committee representing the interests of the four business functions (finance, sales, marketing, operations), not by one or two senior managers responding to tactical issues.

- Company pricing policies should clearly delineate:

  - Who meets to change prices.

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- The circumstances under which prices are changed.

- The aspects of pricing that may be changed.

14. SELLING THE SALES FORCE

- Since the sales force must live with pricing every day, sales should be a key input source and the primary implementers of pricing policy. It is vital that sales understand the reasons for the price changes and the likely customer reactions.

- Sales needs to understand the prices and the potential impact on each customer; sales must not be surprised as a result of a price change.

- Marketing, working closely with sales management, should develop a set of responses to the most likely customer objections.

- INPUT believes individual salespersons should not be able to modify pricing policies and practices.

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APPENDIX A: DEFINITIONS

APPENDIX A: DEFINITIONS

- INFORMATION SERVICES--Computer-related services involving one or more of the following:

  - Processing of computer-based applications using vendor computers (called "processing services").

  - Services that assist users in performing functions on their own computers or vendor computers (called "software products" and/or "professional services").

  - Services that utilize a combination of hardware and software, integrated into a total system (called "turnkey systems").

A. USER EXPENDITURES

- All market data (unless specifically excepted) are given in terms of user expenditures.

- All user expenditures reported are "available" (i.e., noncaptive, as defined below).

- NONCAPTIVE INFORMATION SERVICES USER EXPENDITURES - Expenditures paid for information services provided by a vendor that is not part of the same parent corporation as the user.

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- CAPTIVE INFORMATION SERVICES USER EXPENDITURES - Expenditures paid for information services provided by a vendor who is part of the same parent corporation as the user.

B. DELIVERY MODES

- PROCESSING SERVICES - This category includes remote computing services, batch services, processing facilities management, and value-added networks (VANs).

  - REMOTE COMPUTING SERVICES (RCS) - Providing computer processing to a user by means of terminal(s) at the user's site(s) connected by a data communications network to the vendor's central computer. There are four submodes of RCS, including:

    - Interactive - Characterized by the interaction of the user with the system for the purpose of problem-solving, data entry, and/or transaction processing. The user is on-line to the program/files. Computer response is usually measured in seconds or fractions of a second.

    - Remote Batch - A service in which the user hands over control of a job to the vendor's computer, which schedules job execution according to priorities and resource requirements. Computer response is usually measured in minutes or hours.

    - Data Base - Characterized by the retrieval and processing of information from a vendor-provided data base. The data base may be owned by the vendor or a third party.

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- User Site Hardware Services (USHS) - Offerings provided by RCS vendors that place programmable hardware on the user's site (rather than in the vendor's computer center). USHS offers access to a communications network, access through the network to the RCS vendor's larger computers, and significant software as part of the service.

- BATCH SERVICES - This includes computer processing performed at vendors' sites of user programs and/or data that are physically transported (as opposed to electronically by telecommunication media) to and/or from those sites. Data entry and data output services, such as keypunching and computer output microfilm processing, are also included. Batch services include those expenditures by users who take their data to a vendor site that has a terminal connected to a remote computer for the actual processing.

- PROCESSING FACILITIES MANAGEMENT (PFM) (also referred to as "resource management" or "systems management") - The management of all or a major part of a user's data processing functions under a long-term contract (more than one year). This would include both remote computing and batch services. To qualify as PFM, the contractor must directly plan, control, operate, and own the facility provided to the user, either on-site, through communications lines, or in a mixed mode.

- VALUE-ADDED NETWORKS (VANs) - VANs typically involve common carrier network transmission facilities that are augmented with computerized switching. These networks have become associated with packet-switching technology because the public VANs that have received the most attention (e.g., Telenet and TYMNET) employ packet-switching techniques. However, other added data service features such as store-and-forward message switching, terminal interfacing, error detection and correction, and host computer interfacing are of equal importance.

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- Processing services are further differentiated as follows:

  - Cross-industry services involve the processing of applications that are targeted to specific user departments (e.g., finance, personnel, sales) but that cut across industry lines. Most general ledger, accounts receivable, payroll, and personnel applications fall into this category. Cross-industry data base services, for which the vendor supplies the data base and controls access to it (although it may be owned by a third party), are included in this category. General-purpose tools such as financial planning systems, linear regression packages, and other statistical routines are also included. However, when the application, tool, or data base is designed for specific industry use, then the service is industry-specific (see below).

  - Industry-specific services provide processing for particular functions or problems unique to an industry or industry group. Specialty applications can be either business or scientific in orientation. Industry-specific data base services, for which the vendor supplies the data base and controls access to it (although it may be owned by a third party), are also included under this category. Examples of industry-specific applications are seismic data processing, numerically controlled machine tool software development, and demand deposit accounting.

  - Utility services are those for which the vendor provides access to a computer and/or communications network with basic software that enables users to develop and/or process their own systems. These basic tools often include terminal-handling software, sorts, language compilers, data base management systems, information retrieval software, scientific library routines, and other systems software.

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- SOFTWARE PRODUCTS - This category includes users' purchases of applications and/or systems software that is sold by vendors as standard products intended for use by different organizations. Included as user expenditures are lease and purchase expenditures, as well as fees for work performed by the vendor to implement and maintain the package (when such fees are either bundled as part of the product price or offered on an annual subscription basis). Fees for work related to education, consulting, and/or custom modification of software products are counted as professional services, provided such fees are charged separately from the price of the software product itself. There are several subcategories of software products, including:

  - APPLICATIONS SOFTWARE PRODUCTS - Software that performs a specific function directly related to solving a business or organizational need. Applications software provides information directly for use by the end user. Applications software products classifications are:

    - Cross-Industry Products - Used in multiple-user industry sectors. Examples are payroll, inventory control, and financial planning.

    - Industry-Specific Products - Used in a specific industry sector such as banking and finance, transportation, or discrete manufacturing. Examples are demand deposit accounting, airline scheduling, and materials resource planning.

  - SYSTEMS SOFTWARE PRODUCTS - Software that enables the computer/communications system to perform basic functions, which are interim steps to providing the end user with "answers" sought. Systems software product classifications are:

    - Systems Control Products - These products function during applications program execution to manage the computer system

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resource. Examples include operating systems, communication monitors, and emulators.

- Data Center Management Products - These products are used by operations personnel to manage the computer system resources and personnel more effectively. Examples include performance measurement, job accounting, computer operations scheduling, and utilities.

- Application Development Products - These products are used to prepare applications for execution by assisting in design, programming, testing, and related functions. Examples include languages, sorts, productivity aids, data dictionaries, data base management systems, report writers, and retrieval systems.

- PROFESSIONAL SERVICES - This category is made up of services in the following categories:

  - SOFTWARE DEVELOPMENT - This service develops a software system on a custom basis. It includes one or more of the following: user requirements, system design, contract, and programming.

  - EDUCATION AND TRAINING SERVICES - These services help people acquire new skills, techniques, or knowledge related to computers. This definition does not include services to educational institutions. (This latter market is included in the education (industry-specific) segment.)

  - CONSULTING SERVICES - Consultants advise clients on computer-related issues that are usually management oriented. Feasibility studies and computer audits are examples of services provided.

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- PROFESSIONAL SERVICES FACILITIES MANAGEMENT (PSFM) - This is the counterpart to processing facilities management, except that in this case the computers are owned by the client, not the vendor; the vendor provides human resources to operate and manage the client facility.

- TURNKEY SYSTEMS (also known as Integrated Systems) - A turnkey system is an integration of systems and applications software with hardware, packaged as a single entity. The value added by the vendor is primarily in the software. Most CAD/CAM systems and many small business systems are turnkey systems. This does not include specialized hardware systems such as word processors, cash registers, or process control systems. Nor does it include Embedded Computer Resources for military applications. Turnkey systems are available either as custom or packaged systems.

  - Turnkey systems revenue is divided into two categories.

    - Industry-Specific systems--that is, systems that serve a specific function for a given industry sector such as automobile dealer parts inventory, CAD/CAM systems, or discrete manufacturing control systems.

    - Cross-Industry systems--that is, systems that provide a specific function that is applicable to a wide range of industry sectors such as financial planning systems, payroll systems, or personnel management systems.

  - Revenue includes hardware, software, and support functions.

- SYSTEMS INTEGRATION - Services associated with systems design, integration of computing components, installation, and acceptance of computer/communication systems. Systems integration can include one or more of the major information services delivery modes--professional services, turnkey

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systems, and software products. System components may be furnished by separate vendors (not as an integrated system by one vendor, called the prime contractor); services may be furnished by a vendor or by a not-for-profit organization. Integration services may be provided with related engineering activities, such as SE&I (Systems Engineering and Integration) or SETA (Systems Engineering and Technical Assistance).

C. HARDWARE/HARDWARE SYSTEMS

- HARDWARE - Includes all computer communications equipment that can be separatedly acquired, with or without installation by the vendor, and not acquired as part of a system.

  - PERIPHERALS - Includes all input, output, communications, and storage devices, other than main memory, that can be locally connected to the main processor and generally cannot be included in other categories, such as terminals.

  - INPUT DEVICES - Includes keyboards, numeric pads, card records, bar-code readers, lightpens and trackballs, tape readers, position and motion sensors, and A-to-D (analog-to-dialog) converters.

  - OUTPUT DEVICES - Includes printers, CRTs, projection television screens, microfilm processors, digital graphics, and plotters.

  - COMMUNICATION DEVICES - Includes modems, encryption equipment, special interfaces, and error control.

  - STORAGE DEVICES - Includes magnetic tape (reel, cartridge, and cassette), floppy and hard disks, solid state (integrated circuits), and bubble and optical memories.

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- TERMINALS - There are three types of terminals:

  - USER PROGRAMMABLE (also called "intelligent terminals"):

    . Single-station or standalone.

    . Multistation-shared processor.

    . Teleprinter.

    . Remote batch.

  - USER NONPROGRAMMABLE:

    . Single-station.

    . Multistation-shared processor.

    . Teleprinter.

  - LIMITED FUNCTION - Originally developed for specific needs, such as POS (point of sale), inventory data collection, controlled access, etc.

- HARDWARE SYSTEMS - Includes all processors, from microcomputers to super (scientific) computers. Hardware systems require type- or model-unique operating software to be functional, but the category excludes applications software and peripheral devices, other than main memory and processor or CPUs not provided as part of an integrated (turnkey) system.

  - MICROCOMPUTER (or personal computer or PC) - Combines all of the CPU, memory, and peripheral functions of an 8- or 16-bit computer on a chip, in the form of:

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- Integrated circuit package.

- Plug-in board with more memory and peripheral circuits.

- Console--including keyboard and interfacing connectors.

- Personal computer with at least one external storage device directly addressable by CPU.

- MINICOMPUTER - Usually a 12-, 16- or 32-bit computer, which may be provided with limited applications software and support, and may represent a portion of a complete large system.

  - Personal business computer.

  - Small laboratory computer.

  - Nodal computer in a distributed data network, remote data collection network, connected to remote microcomputers.

- MAINFRAME - Typically a 32- or 64-bit computer, with extensive applications software and a number of peripherals in standalone or multiple CPU configurations for business (administrative, personnel, and logistics) applications, also called a General-Purpose Computer.

  - Large computer mainframes are presently centered around storage controllers, but are likely to become bus-oriented and to consist of multiple processors (CPUs) or parallel processors; they are intended for structured mathematical and signal processing, and are generally used with general-purpose von-Newmann-type processors for system control.

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- Supercomputer mainframes are high-powered processors with numerical processing throughout that is significantly greater than the largest general-purpose computers, with capacities in the 10-50 MFLOPS (million floating point operations per second) range, in two categories:

- REAL TIME - Generally used for signal processing.

- NONREAL TIME - For scientific use, with maximum burst-mode (but sustained speed) capacities of up to 100 MFLOPS, in one of three configurations:

  - Parallel processors.

  - Pipeline processors.

  - Vector processors.

- Newer supercomputers--with burst modes approaching 300 MFLOPS, main storage size up to 10 million words, and on-line storage in the one-to-three gigabyte class--are also becoming more common.

- EMBEDDED COMPUTER - Dedicated computer system designed and implemented as an integral part of a weapon or weapon system, or platform, that is critical to a military or intelligence mission, such as command and control, cryptological activities, or intelligence activities. Characterized by MIL SPEC (military specification) appearance and operation, limited but reprogrammable applications software, and permanent or semipermanent interfaces. May vary in capacity from microcomputers to parallel-processor computer systems. Information services forecasts in this report do not include applications for this type of computer.

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D. OTHER CONSIDERATIONS

- When questions arise about the proper place to count certain user expenditures, INPUT addresses them from the user viewpoint. Expenditures are then categorized according to what users perceive they are buying.

- The standard industrial classification (SIC) codes are used to define the economic activity contained in generic sectors such as process manufacturing, insurance, or transportation.

- The specific industries (and their SIC codes) included under these generic industry sectors are detailed in Exhibit A-1.

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EXHIBIT A-1

INDUSTRY SECTOR DEFINITIONS

INDUSTRY SECTOR	INDUSTRY SIC	INDUSTRY NAME
Discrete Manufacturing	23	Apparel
	25	Furniture
	27	Printing
	31	Leather
	34	Metal
	35	Machinery
	36	Electronics
	37	Transportation
	38	Scientific and Control Instruments
	39	Miscellaneous Manufacturing
Process Manufacturing	10	Metal Mining
	11	Anthracite Mining
	12	Coal Mining
	13	Oil and Gas Extraction
	14	Mining/Quarrying of Non-Metallic Minerals, except Fuels
	20	Food Products
	21	Tobacco
	22	Textile Products
	24	Lumber and Wood Products
	26	Paper Products
	28	Chemicals
	29	Petroleum
	30	Rubber and Plastics
	32	Stone, Glass, Clay
	33	Primary Metals

Continued

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EXHIBIT A-1 (Cont.)

INDUSTRY SECTOR DEFINITIONS

INDUSTRY SECTOR	INDUSTRY SIC	INDUSTRY NAME
Transportation	40	Railroads
	41	Local Transit
	42	Motor Freight
	43	U.S. Postal Service
	44	Water Transportation
	45	Air
	46	Pipelines
	47	Transportation Services
Utilities	49	Electric, Gas, and Sanitary
Telecommunications	48	Communications
Wholesale Distribution	50	Durable Goods
	51	Nondurable Goods
Retail Distribution	52	Building Materials, Hardware
	53	General Merchandise
	54	Food
	55	Automotive and Gas Stations
	56	Apparel
	57	Furniture
	58	Eating and Drinking
	59	Miscellaneous Retail

Continued

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EXHIBIT A-1 (Cont.)

INDUSTRY SECTOR DEFINITIONS

INDUSTRY SECTOR	INDUSTRY SIC	INDUSTRY NAME
Banking and Finance	60	Banks
	61	Credit Agencies
	62	Security and Commodity Brokers
	67	Holding and Investment Offices
Insurance	63	Insurance (Life, Health, Etc.)
	64	Insurance Agents
Medical	80	Health Services
Education	82	Educational Services
Services	73	Business Services (excluding information services companies themselves)
	89	Miscellaneous Services
Federal Government	N/A	As Appropriate
State and Local Government	N/A	As Appropriate

Continued

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EXHIBIT A-1 (Cont.)

INDUSTRY SECTOR DEFINITIONS

INDUSTRY SECTOR	INDUSTRY SIC	INDUSTRY NAME
Other Industries	01-09	Agriculture, Forestry, and Fishing
	15-17	Construction
	65	Real Estate
	66	Combinations of Real Estate, Insurance, Loans, Law Offices
	70	Hotels, Rooming Houses, Camps, and Other Lodging Places
	72	Personal Services
	75	Automotive Repair, Services, and Garages
	76	Miscellaneous Repair Services
	78	Motion Pictures
	79	Amusement and Recreation Services, Except Motion Pictures
	81	Legal Services
	83	Social Services
	84	Museums, Art Galleries, Botanical and Zoological Gardens
	86	Membership Organizations

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APPENDIX B: VENDOR QUESTIONNAIRE

APPENDIX B

VENDOR QUESTIONNAIRE

INPUT's research has indicated that the issue of pricing of turnkey systems is a subject of great interest to both buyers and sellers.

We would like to interview your organization concerning your experiences and expectations concerning pricing levels, terms, and conditions related to minicomputer and microcomputer-based turnkey systems.

The purpose of this research is to develop a report profiling current practices as well as future directions in turnkey systems pricing. This report should be useful in helping your organization assess its own practices in comparison with industry trends.

In exchange for the interview, INPUT will send you a complimentary special summary of the results of the survey.

1. Which of the following best describes your role in the pricing of your firm's turnkey systems?

   Decision maker _____

   Recommender _____

   Researcher _____

   (Note: If respondent is not either a Decision maker or a Recommender, find out who is and attempt to interview them for the remainder of the questions.)

2. What are the titles of the persons in your company involved in setting prices and pricing policies?

   _____ _____

   _____ _____

   _____ _____

3. What is the role of your company's field sales reps in the pricing process?

   _____

   _____

   _____

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4. How many employees does your firm now have? _____

5. What percent change did that represent from 1984?

   Plus / Minus / (Circle one) _____% or same

6. Would your turnkey systems best be described as:

   _____ Industry-Specific _____ Cross-Industry

   a. If industry-specific, what industry/industries do you serve?

   _____

   b. If cross-industry, what specific function(s) do you specialize in?

   _____ Accounting
   _____ Engineering/Scientific
   _____ Planning & Analysis
   _____ Sales & Marketing
   _____ Data Communications
   _____ Education & Training
   _____ Human Resources
   _____ Business Graphics
   _____ Office Automation
   _____ Other _____

7. In your opinion, what were your customer's top three buying criteria in the past year?

   (Number the appropriate response in the order stated by the respondent: first response is #1, etc.)

   _____ Performance
   _____ Vendor Commitment to Market
   _____ Ease of Use
   _____ Hardware Maintenance
   _____ Consulting Services Offered
   _____ Vendor Reputation
   _____ Ease of Implementation
   _____ Price
   _____ Other: _____
   _____ Features
   _____ Quality of Documentation
   _____ Training Provided
   _____ Software Maintenance and Upgrades
   _____ Other's Recommendations
   _____ Vendor Financial Strength
   _____ Other: _____
   _____ Other: _____

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8. Does your firm price hardware maintenance and support fees separately from the price of the system itself?

_____ Yes _____ No

a. If yes, what percent of the overall system price do you charge for support?

_____%

b. How often do you adjust support charges?

_____ Every 2 years _____ Semi-annually

_____ Annually _____ Monthly

_____ Other: (Describe) _____

9. a. Does your firm charge for software maintenance?

_____ Yes _____ No

b. If yes, describe the frequency of charges:

_____ Annual _____ Quarterly

_____ Semi-annual _____ Monthly

_____ Other (Describe:) _____

c. What specific services does the customer receive for these charges?

_____

10. Does your firm charge for installation?

_____ Yes _____ No

11. Does your firm charge for training/customer education?

_____ Yes _____ No

12. Do you offer financing assistance? _____ Yes _____ No

a. If yes, what financing approaches do you offer?

_____ Leasing _____ Rental

_____ Installment Payments _____ Lump-sum Payment

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DISCOUNTS

13. What percent of your customers received a discount from list price in 1985?

_____%

14. Was this a change from the percentage of customers receiving discounts in 1984?

_____ Yes _____ No

a. If yes, what percent received discounts in 1984? _____%

b. What were the causes for this change? _____

_____

15. What form did the discount take?

_____ Reduced Price

_____ "Extras" Thrown In

Is "Extra" Software? _____ Yes _____ No

Is "Extra" Hardware? _____ Yes _____ No

Is "Extra" Consulting or Customizing? _____ Yes _____ No

16. Were any specific system components discounted over the past year?

_____ Yes _____ No

a. If yes, what system components were discounted?

_____ Overall System Only _____ Hardware

_____ Systems Software _____ Applications Software

_____ Training/Maintenance _____ Consulting/Customization

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PRICING

17. a What is the average selling price of one of your turnkey systems?

$_____

b. By what percent does the list price for your turnkey system exceed the list price of ONLY the hardware?

_____%

18. a. When setting the system price, do you price the hardware portion of your turnkey system at the manufacturer's suggested list price?

_____ Yes _____ No

b. If no, do you generally price the hardware higher or lower than manufacturer's suggested list price?

_____ Higher _____ Lower

c. By what percentage do you typically price your hardware (higher/lower)_____ than suggested list price? _____%

19. What factors do you consider when setting the list price for the software portion of your turnkey system?

a. _____ d. _____

b. _____ e. _____

c. _____ f. _____

20. Describe your approach to determining a price of value for the training portion of your turnkey system:

_____

_____

21. Please describe your company's approach to determining a price or value for the installation portion of your turnkey system:

_____

_____

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22. Please describe your company's approach to determining price or value for the software customization portion of your turnkey system:

_____

_____

23. a. Does this price-setting process differ from the way prices were set in 1980?

_____ Yes _____ No

b. If yes, please describe the difference(s): _____

_____

_____

24. By about what percent did your company raise its turnkey system list price?

a. Between 1984 and 1985? _____ %

b. Between 1983 and 1984 _____ %

25. By what percent do you plan to raise list prices on your turnkey systems pricing for 1986?

_____ %

26. a. What do you see as the trend, covering the next three to five years, in turnkey systems pricing? _____

_____

_____

b. What specific factors influenced your forecast? _____

_____

_____

c. Why did you mention each of these factors? _____

_____

_____

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Now we'll look at the same process from the buyer's side.

27. For the past 12-month period, by what average percentage has your firm had to discount its turnkey systems in order to close a sale?

_____%

28. What has been the range of percentage discounts for the past 12 months you offered to prospective purchasers?

Low Percentage _____ to High Percentage_____

29. a. What other forms of discounting is your company offering?

_____

_____

b. How does this differ from the past?

_____

_____

30. a. What types of discounting do customers now want?

_____

_____

b. How does this differ from types of discounts they wanted in the past?

_____

_____

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31. a. What do you see as the trend in discounts offered by turnkey systems vendors?

_____

_____

b. Why? _____

_____

c. What do you see as the trend in the kinds of discounts sought by customers?

_____

_____

d. Why? _____

_____

32. a. Do you track specific competitors on their discounts given?

Yes _____ No _____

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HARDWARE AND SOFTWARE ADD-ONS

33. What additional hardware products are typically purchased within one year following installation?

_____ _____

_____ _____

34. Do you typically discount these products from list price?

_____ Yes _____ No

35. If yes, by what percent? _____%

36. Sales of hardware add-ons play what role in your company's pricing strategy?

_____

_____

37. What additional software products are typically purchased within the first year following installation?

_____ _____

_____ _____

38. Do you typically discount these products from their suggested list price?

_____ Yes _____ No

39. If yes, by what percent? _____%

40. Sales of software add-ons play what role in your company's pricing strategy?

_____

_____

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TERMS AND CONDITIONS

Historical Situation

41. a. Which terms and conditions did you consider to have been most important? That is, which one(s) did you NOT like to change 2-3 years ago?

    1. _____

    2. _____

    3. _____

    4. _____

    b. Which terms and conditions did your customers consider to have been most important? Which one(s) did they NOT like to change 2-3 years ago?

    1. _____

    2. _____

    3. _____

    4. _____

Current Situation

42. a. Which current terms and conditions do you consider to be most important? (i.e., which one(s) do you not like to change?)

    1. _____

    2. _____

    3. _____

    4. _____

    b. Which current terms and conditions do your customers consider to be most important? (i.e., which ones do they not like to change?)

    1. _____

    2. _____

    3. _____

    4. _____

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43. Other Comments:

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APPENDIX C: USER QUESTIONNAIRE

APPENDIX C

USER QUESTIONNAIRE

INPUT's research has indicated that the issue of pricing of turnkey systems is a subject of great interest to both buyers and sellers.

We would like to interview your organization concerning your experiences and expectations concerning pricing levels, terms, and conditions related to mini-computer and microcomputer-based turnkey systems.

The purpose of this research is to develop a report profiling current practices as well as future directions in turnkey systems pricing. This report should be useful in helping your organization understand the dynamics of pricing turnkey systems and should help in making better purchase decisions.

In exchange for the interview, INPUT will send you a complimentary special summary of the results of the survey.

1. Which of the following best describes your role in the purchase of your firm's turnkey systems?

   Decision Maker _____

   Recommender _____

   Researcher _____

   (Note: If respondent is not either a Decision maker or Recommender, find out who is and attempt to interview them for the remainder of the questions.)

2. What are the titles of the persons in your company involved in purchasing turnkey computer systems?

   _____ _____

   _____ _____

   _____ _____

3. How many employees does your firm now have? _____

4. What percent change did that represent from 1984?

   Plus / Minus / (Circle one) _____% or same

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5. What is your turnkey system used for? _____

_____

6. What were your top three buying criteria in the past year?

(Number the appropriate response in the order stated by the respondent; first response is #1, etc.)

_____	Performance	_____	Features
_____	Vendor Implementation	_____	Quality of Documentation
_____	Ease of Use	_____	Training Provided
_____	Hardware Maintenance	_____	Software Maintenance and Upgrades
_____	Consulting Services Offered		
_____	Vendor Reputation	_____	Other's Recommendation
_____	Ease of Implementation	_____	Vendor Financial Strength
_____	Price	_____	Other
_____	Other	_____	Other
_____	Other	_____	Other

8. Does your firm pay separate hardware maintenance and support fees?

_____ Yes _____ No

a. If yes, what percent of the overall system price did you pay for support in 1985?

_____%

b. How often have you received a price adjustment for support charges?

_____	Every 2 years	_____	Semi-annually
_____	Annually	_____	Monthly

_____ Other: (Describe) _____

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9. a. Does your firm pay a separate fee for software maintenance?

_____ Yes _____ No

b. If yes, please describe the period covered by the contract for software maintenance fees:

_____ Annual _____ Quarterly

_____ Semi-annual _____ Monthly

_____ Other (Describe:) _____

c. What specific services do you receive for these charges? _____

_____

_____

10. Did the turnkey vendor charge for installation? _____ Yes _____ No

11. Did the turnkey vendor charge for training/customer education?

_____ Yes _____ No

12. Did the vendor offer financing assistance? _____ Yes _____ No

DISCOUNTS

13. Did you receive a discount from list price in 1985?

_____ Yes (_____%) _____ No

14. What form did your discount take?

_____ Reduced price

_____ "Extras" thrown in

Software? _____ Yes _____ No

Hardware? _____ Yes _____ No

Consulting or customization? _____ Yes _____ No

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15. Were any specific system components discounted over the past year?

_____ Yes _____ No

a. If yes, what system components were discounted?

_____ Overall System Only _____ Hardware

_____ Systems Software _____ Applications Software

_____ Training/Maintenance _____ Consulting/Customization

PRICING

16. Please describe the complete configuration of your turnkey system:

Hardware:

CPU _____

Disk _____

Tape Drivers _____

No. of Terminals _____

No. of Printers _____

Comm. Devices _____

Other _____

Software:

O.S. _____

DBMS _____

Utilities _____

_____

_____

Application _____

_____

_____

_____

17. a. What is the price you paid for your turnkey system? $_____

B. By what percent does the list price for your turnkey system exceed the list price of ONLY the hardware?

_____%

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18. Do you feel the vendor charged you a fair price for the training portion of your turnkey system?

_____ Yes _____ No

Discussion: _____

_____

19. How much did you pay for the installation portion of your turnkey system?

$_____

Discussion: _____

_____

20. Please describe any software customization done for your turnkey system:

_____

_____

21. a. What do you see as the trend, covering the next three to five years, in turnkey systems pricing?

_____

_____

_____

b. What specific factors influenced your forecast?

_____

_____

_____

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22. a. What types of discounts do you seek in your negotiations? _____

_____

_____

b. Do these differ from discounts sought in the past? _____ Yes _____ No

If yes, please describe the differences: _____

_____

_____

23. a. What do you see as the trend in discounts offered by turnkey systems vendors?

_____

_____

_____

b. Why? _____

_____

_____

c. What do you see as the trend in the kinds of discounts sought by turnkey systems buyers?

_____

_____

_____

d. Why? _____

_____

_____

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HARDWARE AND SOFTWARE ADD-ONS

24. What additional hardware products have you purchased within one year following installation?

_____ _____

_____ _____

_____ _____

25. Compare what you paid for these products with the hardware manufacturer's list price:

_____ Higher _____ Same _____ Lower

26. If higher or lower, by what percent? _____%

27. What additional software products did you purchase within the first year following installation?

_____ _____

_____ _____

_____ _____

TERMS AND CONDITIONS

28. a. Which current terms and conditions do you consider to be most important? (i.e., which one(s) do you not like to change?)

1. _____ 4. _____

2. _____ 5. _____

3. _____ 6. _____

b. Which current terms and conditions do your turnkey vendors consider to be most important? (i.e., which one(s) do they not like to change?)

1. _____ 4. _____

2. _____ 5. _____

3. _____ 6. _____

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29. Other Comments:

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